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AD-TR-86-33

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CLIMATOLOGY OF SURFACE WINDS

HOLLOMAN HIGH SPEED TEST TRACK

RICHARD F. HIMEBROOK

STAFF METEOROLOGIST
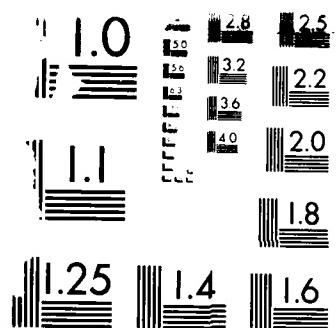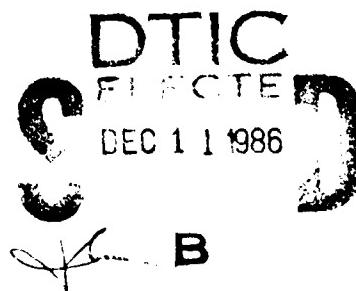6585TH TEST GROUP
HOLLOMAN AFB, NEW MEXICO 88330

SEPTEMBER 1986

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Summary of wind climatology at the Holloman High Speed Test Track from 1 September 1980 to 31 August 1986. This report includes background on collection methods, interpretation procedures, quality control of data, and several summaries of data.

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PREFACE

The <u>Climatology of Surface Winds</u> at the Holloman High Speed Test Track has been prepared by the 6585th Test Group/WE who provided the direction for the effort and wrote this report. Other significant contributors to this effort were:

Mr Lowell F. Richardson. Performed the daily checks of the wind recorder to ensure that the pens had ink and that the time on the charts was correct. His devotion to "always doing his best" was fundamental to the quality of the data.

Mrs Candace S. Spradlin. The prime individual who interpreted and created computer files for the wind data.

Mrs Cindy Guthrie. Continued the work begun by Mrs Spradlin.

Ms Irma Saldana. Completed Mrs Guthrie's work.

AFCC Met Equipment Maintenance. This staff performed all the maintenance of the anemometer system and did the quality assurance for the values recorded on the wind records.

Lt Rodney L. Smith. Did the majority of the "computer language" writing of the Quality Control computer program.

Capt Robert J. Beasley. Answered numerous questions having to do with computer programs.

Mr Fred Shearer. Answered numerous questions having to do with computer programs.

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CLIMATOLOGY OF SURFACE WINDS
Holloman High Speed Test Track

1 September 1980 - 31 August 1986

1. INTRODUCTION

Surface winds at the Holloman High Speed Test Track have been recorded since mid 1980. The data from these records have been interpreted and recorded into a computer data base so that a climatology can be developed. This Technical Report is a summary of that effort.

2. BACKGROUND

In 1983 we started a review of wind data to develop a climatology for planning Track tests. It was found that some data from wind records had been interpreted, recorded (on paper) in a format for computer files, and to a limited extent entered into computer files. Although considerable work had been done, interpretation methods were not consistent.

Maximum and minimum winds were associated with a particular time, and three different methods had been used. One associated the winds for 0400 LST with the maximum and minimum wind recorded between 0330 and 0400 LST, another with 0400-0430 LST, and another with 0345-0415 LST. Since in a standard weather observation they report what has happened (in the past), we adopted the same method, and associated the data recorded between 0330 and 0400 LST with 0400 LST.

During some periods the second highest gust, rather than the maximum gust was recorded (this may have been an attempt to find the average maximum wind). This report uses the maximum speed recorded on the chart.

3. QUALITY CONTROL

In reviewing data we found that different methods to record data were used, thus we revised our record sheet to indicate who had recorded the information and on what date.

Software was developed to spot "gross" errors. This program, called "QC" (the source program is called QCHECK), tests for the following (a copy of this program is in Appendix E):

1

a. Wind direction does not exceed 360 degrees.

b. Maximum wind speed is greater than or equal to the minimum wind speed.

c. Wind reported each 30 minutes is equal to or between the maximum and minimum wind speeds.

d. Date is appropriate for the data line.

e. Morning and afternoon data are on the correct line (required since each line can only store a little over one-half day data).

f. Month and year for each line agree with the file name.

g. A valid year is used (limits were 1980 to 1990).

h. Data were all for the same location (a "1" was used to denote data from Track Data Center; a "2" will be used for data from the Automated Relay Complex (ARC) building).

i. Number of lines of data agreed with the number of days in a month (i.e. 31 days for January, etc.).

4. DATA PROCESSING

Data are entered into computer files (by month), quality checked, and processed using the "TWIND" (source program called "CBUILD") program. This processing program is given in Appendix F. In each case standard mathematical formulas were used. Of particular interest were the computations for resultant wind direction and its standard deviation.

Resultant Wind Direction. Since wind directions are discontinuous about north (the mathmetical average of 340 and 020 does not yield north 000), computations can be difficult. The following procedure was used:

The sine and cosine for each wind direction are determined. We then average these, i.e. S = Sum (sines)/n; and C = Sum (cosines)/n where n is the number of cases being considered. To compute the resultant direction we used the arcsine function, thus we need the square root of the sum of the square of C and S (i.e. R = Square Root (S*S + C*C)). Using these, the resultant wind direction (R W D) is determined as follows:

$$R \ W \ D = \text{Arcsine } (S/R) \quad \text{if } S \text{ is positive}$$

$$= 360 - \text{Arcsine } (S/R) \quad \text{if } S \text{ is negative}$$

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The standard deviation was computed using:

$$\text{Standard Deviation} = \text{Square Root } (-2(\ln R)) * 180/\text{pi}$$

The theoretical derivation can be found in Mardia, 1972: Statistics of Directional Data (Academic Press). Note: These results agree closely (but not exactly) with more cumbersome mathematical techniques.

5. ANEMOMETER INFORMATION

a. Instrument type. The data for this technical report was gathered using a AN/GMQ-11 wind speed and direction anemometer recorded on a RO/362 recorder.

b. Location. The anemometer is mounted about 4 meters (13 feet) above the ground just west of Camera Pad road at the Track Data Center (TDC) of the Holloman High Speed Test Track. Specifically at about 32 Deg 55' N, 106 Deg 9' W, at an elevation of about 1244 meters (4080 feet) MSL. (See Fig 1.)

6. DISCUSSION OF APPENDIXES

a. Appendix A is a summary with all months shown for each parameter. The values on these pages are taken from the summaries for each month which are in Appendix B.

(1) Mean Resultant Wind Direction (True). This chart depicts the climatological wind direction for each 30 minutes of the day by month of the year. Isotimic lines, at 30 degree intervals, have been added to highlight the data. As can be seen on Appendix A-1, the early morning wind is easterly. Then shifts, near sunrise, to the southwest. Finally becoming easterly again after dark.

(2) Mean Resultant Wind Direction (Magnetic). This chart depicts the climatological wind direction (magnetic) for each 30 minutes of the day by month of year. (Note: magnetic declination is 11 deg 10' east.) This chart is included since the original data uses magnetic directions.

(3) Mean Wind Speed. This chart indicates mean speed which occurred at the time indicated, i.e. a "snapshot" look at the winds for a given time. The isotach lines, at two knot intervals, are used to highlight the data.

(4) Maximum Wind Speed. This chart lists the maximum wind speed ever observed during the 30 minute period preceding the time indicated. To make strong winds stand out, a "+" is placed ahead of winds greater than or equal to 30 knots (but less than 40 knots), with a "*" indicating winds greater than

3

Figure 1

※ PERMANENT ANEMOMETER

THE TEST TRACK BEARS 4° WEST OF TRUE NORTH AND 15° WEST OF MAGNETIC NORTH.

TULAROSA

TULAROSA PEAK

RESTRICTED AREA

LA LUZ GATE

WHITE SANDS MISSLE RANGE
HOLLOMAN AIR FORCE BASE

TDC

WATER TOWER

RATSCAT

KING I

TEST TRACK

70 ALAMOGORDO

KELLY ROAD

MAIN GATE
HOLLOMAN A.F.B.
NEW MEXICO

LAS CRUCES 70

4
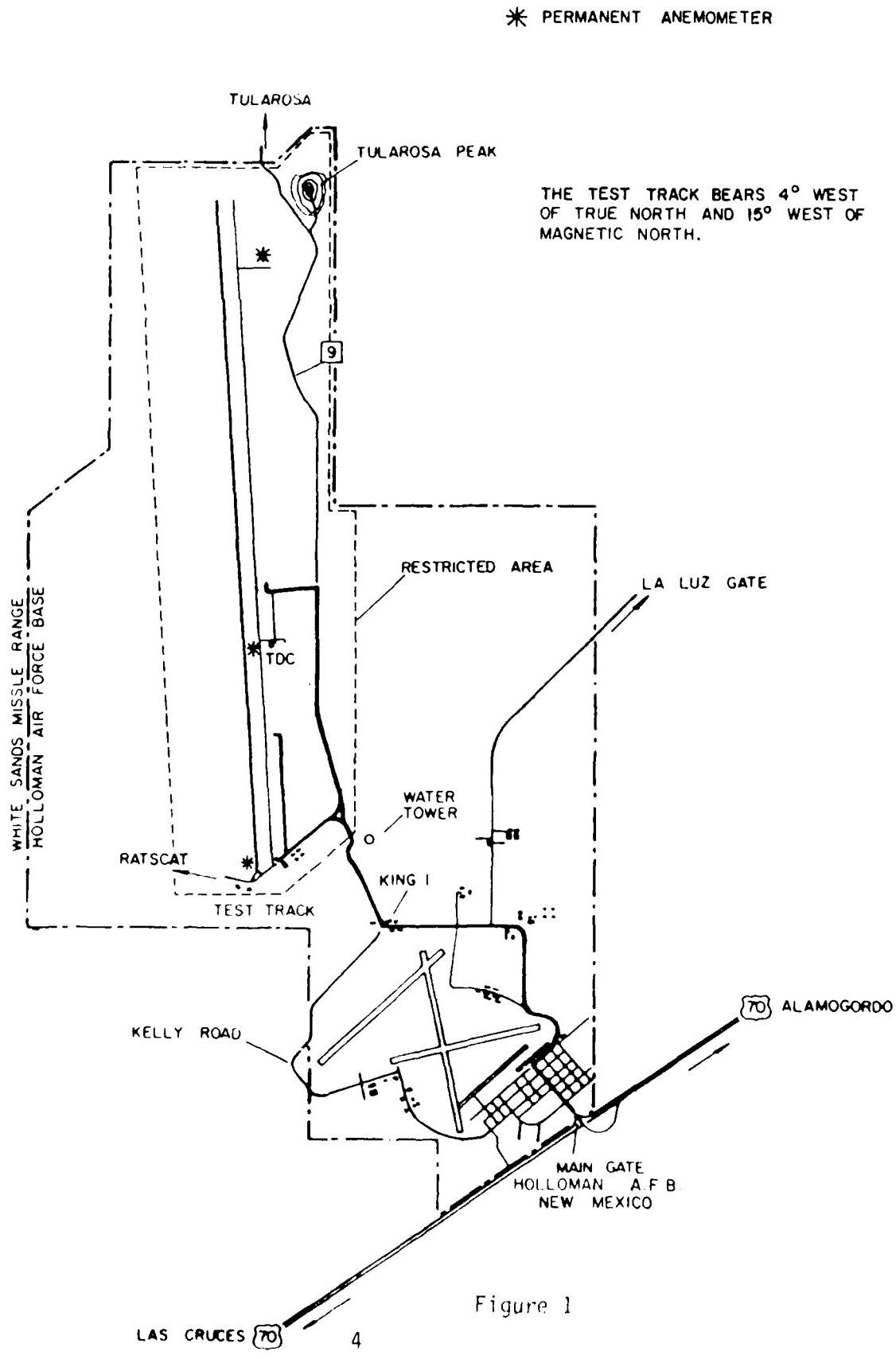
or equal to 40 knots. When using this chart, note the values around (before and after in time and left/right in month) the time of interest -- use the greatest value found.

(5) Mean Maximum Wind Speed. This chart is included to indicate what wind speed will typically occur for a given time. Isotach lines, at three knot intervals, are used to highlight the data.

b. Appendix B has the monthly summaries. These incorporate the data, for the month indicated, from all years (80, 81, 82, 83, 84, 85 and/or 86), as indicated.

(1) The first page of the monthly summary indicates the resultant wind direction (magnetic) and standard deviation of the direction, using the formula described in paragraph 4. The speed columns use data only for the time indicated at the left. The "Previous 30 minutes" columns use all data from the 30 minute period preceding the time indicated. The number of cases used is listed to indicate the "goodness" of the data (i.e. was the sample size large or small).

(2) The second page for each month provides a comparison of the maximum and minimum wind speeds which have occurred.

(3) The third page of the monthly summary shows wind direction (magnetic) versus speed. These data are particularly useful, assuming you can anticipate the wind direction, and want guidance on potential speeds.

c. Appendix C is a sample of the form used to record the wind data for entry into computer files.

d. Appendix D is a sample wind record. Wind direction is on the left and speed on the right. To allow a continuous recording when the wind direction passes through north, two pens are used, one traces the direction while the other "rides" along the side.

e. Appendix E contains the quality control program, written in Fortran.

f. Appendix F is the climatology processing program, written in Fortran.

APPENDIX A - Summary of All Months
Mean Wind Direction (True)
(True = Magnetic plus 11 degrees)
TDC Anemometer -- Holloman High Speed Test Track

MST	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MDT
0000	66	80	114	119	117	144	100	86	105	79	81	71	0100
0030	67	77	106	128	98	132	100	85	96	85	80	70	0130
0100	58	65	97	110	96	127	97	78	88	81	78	69	0200
0130	62	64	98	113	97	124	86	79	86	78	68	72	0230
0200	56	63	94	102	76	119	86	67	81	78	75	68	0300
0230	49	72	82	103	85	102	77	63	80	76	71	67	0330
0300	56	68	81	81	86	110	69	54	65	74	73	70	0400
0330	59	68	76	80	82	99	76	62	65	71	79	83	0430
0400	50	69	83	85	75	91	63	54	66	74	79	73	0500
0430	53	77	78	86	75	79	59	59	71	70	83	67	0530
0500	50	74	80	90	69	67	52	53	66	70	83	74	0600
0530	61	68	88	88	71	74	45	49	66	74	82	72	0630
0600	62	71	83	83	83	62	44	45	60	76	82	63	0700
0630	65	68	86	94	93	70	36	39	62	79	87	70	0730
0700	53	74	91	123	157	182	52	32	55	84	90	81	0800
0730	55	67	104	185	219	204	308	298	47	111	105	79	0830
0800	63	110	189	216	228	230	278	267	263	166	129	100	0900
0830	85	152	227	228	240	238	266	267	254	198	163	119	0930
0900	137	200	232	236	235	242	260	264	251	215	187	152	1000
0930	217	226	239	235	238	238	255	256	254	223	207	195	1030
1000	240	235	244	240	233	242	252	252	248	235	218	216	1100
1030	242	246	248	241	233	238	246	251	246	231	223	224	1130
1100	252	247	244	244	242	243	247	244	247	232	230	230	1200
1130	263	246	246	236	236	241	244	245	248	233	231	242	1230
1200	248	243	259	240	236	242	246	253	242	237	234	253	1300
1230	252	245	240	238	235	242	248	245	236	234	228	244	1330
1300	251	243	242	233	234	245	247	242	234	235	237	245	1400
1330	250	246	243	236	232	232	233	243	237	235	232	247	1430
1400	248	239	244	239	231	239	231	238	233	230	234	244	1500
1430	244	243	236	237	230	238	228	228	232	232	231	247	1530
1500	245	240	240	236	230	232	216	217	223	228	231	246	1600
1530	244	232	237	233	231	227	219	212	218	228	224	240	1630
1600	237	236	236	229	230	221	215	215	203	225	218	247	1700
1630	241	224	235	226	227	231	202	212	212	219	214	239	1730
1700	241	213	236	227	227	230	193	200	197	206	197	226	1800
1730	218	195	219	222	218	220	185	198	190	189	166	180	1830
1800	151	172	211	217	215	216	178	200	177	160	141	69	1900
1830	92	155	186	212	202	201	174	187	161	146	118	66	1930
1900	83	133	163	204	194	192	166	159	148	123	103	64	2000
1930	79	117	159	196	182	186	147	134	138	108	98	68	2030
2000	78	105	148	189	174	175	129	123	133	102	90	63	2100
2030	78	99	139	177	167	177	128	116	122	99	96	65	2130
2100	75	96	134	164	161	154	115	105	117	99	94	68	2200
2130	73	90	135	168	142	147	102	104	118	104	90	67	2230
2200	79	98	144	172	122	147	107	102	136	100	91	75	2300
2230	75	100	133	147	118	149	104	95	148	105	92	71	2330
2300	80	96	128	136	119	148	103	95	128	98	90	68	0000
2330	76	87	126	134	119	148	107	83	119	97	85	71	0030

Period of record: 1 Sep 1980 - 31 August 1986
Prepared by: 6585 TestG/WE and OL-A, 2 Weather Sq

A-1

Mean Wind Direction
(Degrees - Magnetic)
TDC Anemometer -- Holloman High Speed Test Track

MST	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MDT
0000	55	69	103	108	106	133	89	75	94	66	70	60	0100
0030	56	66	95	117	87	121	89	74	85	74	69	59	0130
0100	47	54	86	99	85	116	86	67	77	70	67	58	0200
0130	51	53	87	102	86	113	79	68	75	67	57	61	0230
0200	45	52	83	91	65	108	75	56	70	67	64	57	0300
0230	38	61	71	92	74	91	66	52	69	65	60	56	0330
0300	45	57	70	70	75	99	58	43	54	63	62	59	0400
0330	48	57	65	69	71	88	65	51	54	60	68	72	0430
0400	39	58	72	74	64	80	52	43	55	63	68	62	0500
0430	42	66	67	75	64	68	48	48	60	59	72	56	0530
0500	39	63	69	79	58	56	41	42	55	59	72	63	0600
0530	50	57	77	77	60	63	34	38	55	63	71	61	0630
0600	51	60	77	77	72	51	33	34	49	65	71	52	0700
0630	54	57	75	83	82	59	25	28	51	68	76	59	0730
0700	42	63	80	112	146	171	341	21	44	73	79	70	0800
0730	44	76	93	174	208	193	297	287	36	102	94	68	0830
0800	52	99	178	205	217	219	267	256	252	155	118	89	0900
0830	74	141	216	217	229	227	255	256	243	187	152	108	0930
0900	126	189	221	225	224	231	249	253	240	204	176	141	1000
0930	206	215	226	224	227	227	244	245	243	212	196	184	1030
1000	229	224	233	229	222	231	241	241	237	224	207	205	1100
1030	231	235	237	230	222	227	235	240	235	220	212	213	1130
1100	241	236	233	233	231	232	236	233	236	221	219	219	1200
1130	252	235	235	225	225	230	233	234	237	222	220	231	1230
1200	237	232	228	229	225	231	235	242	231	226	223	242	1300
1230	241	234	229	227	224	231	237	234	225	223	217	233	1330
1300	240	232	231	222	223	234	236	231	223	224	226	234	1400
1330	239	235	232	225	221	221	222	232	226	224	221	236	1430
1400	237	228	233	228	220	228	220	227	222	219	223	233	1500
1430	233	232	225	226	219	227	217	217	221	221	220	236	1530
1500	234	229	229	225	219	221	205	206	212	217	220	235	1600
1530	233	221	226	222	220	216	208	201	207	217	213	229	1630
1600	226	225	219	218	219	210	204	204	192	214	207	236	1700
1630	230	213	224	215	216	220	191	201	201	208	203	228	1730
1700	230	202	219	216	216	219	182	189	186	195	186	215	1800
1730	207	184	208	211	207	209	174	187	179	178	155	169	1830
1800	140	161	200	206	204	205	167	189	166	149	130	58	1900
1830	81	144	175	201	191	190	163	176	150	135	107	55	1930
1900	72	122	158	193	183	181	155	148	137	109	92	53	2000
1930	68	106	148	185	171	169	136	123	127	97	87	57	2030
2000	67	94	137	178	163	164	118	112	122	91	85	52	2100
2030	67	88	128	166	156	166	117	105	111	88	85	54	2130
2100	64	85	123	153	150	143	104	94	106	88	83	57	2200
2130	62	79	124	157	131	136	91	93	107	93	79	56	2230
2200	68	87	133	161	111	156	96	91	125	89	80	64	2300
2230	64	89	122	136	107	138	93	84	137	94	81	60	2330
2300	69	85	117	125	108	137	92	84	117	87	79	57	0000
2330	65	76	115	123	108	137	96	72	108	86	74	60	0030

Period of record: 1 Sep 1980 - 31 August 1986
Prepared by: 6585 TestG/WE and OL-A, 2 weather Sq

Mean Wind Speed (Knots)
TDC Anemometer -- Holloman High Speed Test Track

MST	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MDT
0000	3.8	4.4	5.1	5.4	5.2	5.8	4.8	4.8	4.5	4.2	4.2	3.5	0100
0030	3.7	4.2	5.0	5.2	4.8	5.6	4.9	4.7	4.6	4.0	4.3	3.8	0130
0100	3.6	3.9	5.0	5.1	4.9	5.3	4.7	4.5	4.4	3.9	4.3	3.7	0200
0130	3.6	4.4	4.8	5.3	4.9	5.6	4.4	4.3	4.2	4.1	4.4	3.5	0230
0200	3.8	4.6	4.7	5.1	4.8	5.5	4.4	4.1	4.0	4.0	4.3	3.7	0300
0230	3.9	4.4	4.7	5.5	4.8	5.3	4.2	3.8	4.2	3.9	4.3	3.6	0330
0300	3.9	4.4	4.6	5.1	4.6	4.9	4.1	4.0	4.1	3.9	4.2	3.8	0400
0330	3.9	4.3	4.9	4.8	4.7	4.8	3.8	3.7	3.9	3.9	4.2	3.5	0430
0400	4.0	4.1	4.8	4.7	4.6	4.4	3.7	3.9	3.8	3.8	4.2	3.2	0500
0430	3.8	4.0	4.7	4.8	4.5	4.3	3.3	3.6	4.0	3.7	4.0	3.5	0530
0500	3.7	3.8	4.6	4.6	4.7	4.2	3.2	3.4	3.7	3.6	4.1	3.4	0600
0530	3.4	3.9	4.5	4.6	4.4	3.9	3.2	3.5	3.7	3.5	3.9	3.5	0630
0600	3.7	3.8	4.2	4.6	3.9	3.6	3.0	3.1	3.5	3.2	4.1	3.4	0700
0630	3.5	4.2	4.0	4.5	4.2	4.1	3.2	3.1	3.1	3.2	4.1	3.6	0730
0700	3.3	3.7	4.0	5.1	4.8	4.3	3.5	3.0	3.1	2.7	3.7	3.5	0800
0730	3.3	3.5	4.3	5.9	5.3	4.8	3.9	3.5	3.1	3.1	3.7	3.4	0830
0800	3.2	3.7	4.8	6.3	5.8	5.2	4.1	4.0	3.5	3.7	4.1	3.0	0900
0830	3.3	4.5	5.6	6.9	6.1	5.5	4.4	4.0	4.0	4.1	4.4	3.6	0930
0900	3.7	4.8	6.3	7.4	7.0	5.7	4.7	3.8	4.0	4.8	4.9	3.9	1000
0930	4.5	5.5	6.7	7.1	7.2	5.9	4.9	4.3	4.6	5.4	5.3	4.2	1030
1000	4.7	5.8	7.1	6.9	7.0	5.9	4.9	4.5	4.8	5.6	5.8	4.4	1100
1030	5.2	6.0	7.3	7.0	7.5	6.2	5.4	5.1	5.2	5.9	6.2	4.8	1130
1100	5.2	6.4	7.5	7.9	7.6	6.7	5.6	5.1	5.0	6.0	6.1	4.8	1200
1130	5.1	6.5	7.0	8.3	7.4	6.7	6.1	6.1	5.1	6.2	6.3	5.2	1230
1200	5.1	6.7	8.1	8.6	7.7	7.0	5.9	5.8	5.6	6.3	6.3	5.1	1300
1230	5.4	6.5	8.2	8.7	8.0	7.2	6.2	5.5	6.0	6.2	6.3	5.6	1330
1300	5.1	6.1	8.6	9.0	8.8	7.2	6.7	6.2	6.5	6.2	6.0	5.1	1400
1330	5.1	6.9	9.0	9.5	8.7	7.5	7.3	6.7	6.3	6.3	6.4	5.2	1430
1400	5.2	6.7	8.5	9.6	9.3	7.6	7.2	6.9	6.5	6.5	6.3	5.6	1500
1430	5.3	6.6	8.8	9.5	9.3	7.5	7.7	7.3	6.5	6.5	6.2	5.4	1530
1500	5.5	7.1	9.5	9.1	9.8	8.0	7.6	7.4	6.6	6.4	6.1	5.0	1600
1530	5.5	6.8	8.8	9.4	9.6	8.4	8.1	7.4	6.9	6.6	6.0	4.9	1630
1600	5.3	6.4	8.6	10.3	10.2	8.5	8.1	7.1	6.9	6.2	5.5	4.9	1700
1630	5.1	6.5	8.6	10.1	10.5	8.6	7.9	7.6	6.5	5.8	5.0	4.2	1730
1700	4.3	5.7	8.0	9.5	9.9	8.8	8.1	6.6	6.6	5.3	4.4	3.4	1800
1730	3.7	4.7	7.2	9.2	9.8	8.6	7.8	6.5	6.0	4.4	4.5	3.6	1830
1800	3.8	4.6	6.4	8.7	8.6	8.1	7.4	6.1	5.6	4.3	4.5	3.7	1900
1830	4.2	4.6	6.2	7.4	7.6	7.4	6.7	5.5	4.8	4.4	4.8	4.1	1930
1900	4.3	4.8	6.5	7.1	6.9	6.8	5.6	5.1	4.7	4.4	4.9	4.3	2000
1930	4.5	5.1	5.6	6.6	6.3	5.8	5.6	5.4	4.9	4.8	5.2	4.3	2030
2000	4.4	5.1	5.6	6.2	6.5	5.9	5.5	5.0	5.0	4.7	5.1	4.5	2100
2030	4.5	5.0	5.9	6.2	6.3	5.7	5.5	5.3	5.1	4.7	4.7	4.5	2130
2100	4.5	4.9	5.5	5.9	6.1	5.9	5.3	5.3	4.9	4.6	4.8	4.3	2200
2130	4.5	4.7	5.4	5.5	6.0	5.9	5.3	4.9	4.7	4.7	4.9	4.3	2230
2200	4.5	4.4	5.2	5.0	5.4	5.9	5.1	4.8	4.6	4.5	4.5	3.9	2300
2230	4.4	4.0	5.7	6.0	5.4	6.0	5.4	5.3	4.5	4.6	4.3	3.9	2330
2300	4.2	4.6	5.4	5.5	5.2	5.9	5.1	4.9	4.7	4.4	4.5	3.6	0000
2330	4.3	4.6	5.4	5.4	5.4	5.8	5.1	5.2	4.8	4.5	4.5	3.5	0030

Maximum Wind Speed (Knots)
for 30 minutes preceeding time indicated
TDC Anemometer -- Holloman High Speed Test Track

MST	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MDT
0000	29	19	26	+34	29	+30	27	25	21	26	+31	+32	0100
0030	22	24	27	+36	+31	+31	23	22	20	28	+30	27	0130
0100	22	18	+31	+39	+31	25	27	+31	26	27	+30	+32	0200
0130	23	21	27	+32	+36	+39	22	23	26	28	+33	26	0230
0200	25	20	+31	+35	+37	+33	19	24	20	25	25	25	0300
0230	27	28	+32	+31	+33	+31	20	26	19	29	19	29	0330
0300	26	27	+31	+36	+33	+39	26	29	+31	26	23	25	0400
0330	27	26	+32	*40	+36	*40	20	20	27	26	23	+32	0430
0400	+34	21	+34	+35	+34	24	19	19	22	25	22	25	0500
0430	28	23	*42	+34	+38	+35	23	17	21	25	24	23	0530
0500	25	28	27	+38	+35	28	18	25	22	27	24	23	0600
0530	22	26	27	+39	+31	23	12	22	20	25	28	25	0630
0600	+30	24	28	+37	29	17	17	20	21	22	21	19	0700
0630	23	24	28	+36	26	23	13	14	15	21	27	21	0730
0700	25	21	27	+38	27	26	14	20	17	23	20	23	0800
0730	+30	23	27	+35	28	28	16	22	16	19	20	25	0830
0800	+34	24	+33	+33	29	26	19	22	16	28	+33	25	0900
0830	+35	23	+30	*46	+30	*40	19	17	19	23	26	21	0930
0900	26	25	+33	*42	+31	28	22	17	20	25	25	23	1000
0930	+34	25	+36	*41	*41	+31	20	15	22	28	27	23	1030
1000	+34	26	*41	+38	+35	27	22	18	25	+30	28	27	1100
1030	+32	+30	*45	*41	+34	25	20	15	28	+30	26	26	1130
1100	29	27	+35	+39	+30	25	23	17	+31	+31	+30	28	1200
1130	29	+33	+36	+36	+32	+33	28	24	+31	+31	+32	+36	1230
1200	24	+34	*41	+37	+32	26	29	26	+31	+34	+35	+30	1300
1230	27	28	*47	+38	+32	25	26	22	+33	+37	+32	+30	1330
1300	+30	+33	*51*	+38	+30	+38	29	26	+34	+35	+32	+32	1400
1330	+32	+39	*46	+36	+33	+31	+33	29	+30	+35	+37	+32	1430
1400	+30	+37	*44	*40	*47	+30	*45	+32	+37	+33	+34	+36	1500
1430	+31	+39	*42	*40	*48	+38	+35	+33	+33	+33	*44	*42	1530
1500	+30	*40	+38	*40	+35	+32	*40	*40	+33	+32	+39	*41	1600
1530	+30	*41	+38	*46	+35	+38	28	+32	+35	+33	+37	28	1630
1600	+30	+39	*43	*43	*40	*44	27	29	+32	+34	27	+39	1700
1630	29	+39	+36	*40	*42	+31	+33	+33	+32	+31	26	+35	1730
1700	28	+39	+34	*42	*44	+38	+34	29	*40	+34	29	28	1800
1730	26	+37	+36	+37	+35	+38	+34	+32	+38	+32	+31	+31	1830
1800	27	+37	+32	+37	*42	+35	+35	+34	28	25	+33	25	1900
1830	+32	*42	+32	+39	+38	+35	+33	+32	27	27	25	21	1930
1900	26	+30	+39	+39	+34	+32	27	+33	29	*40	25	20	2000
1930	26	27	+30	+37	+33	+34	25	+32	+30	+30	29	19	2030
2000	28	25	+32	*42	+31	29	*41	*45	26	+34	+30	23	2100
2030	26	26	+30	*42	29	29	+37	+32	+35	+34	+34	25	2130
2100	28	28	+30	*40	27	24	*40	+37	+37	28	28	28	2200
2130	28	22	27	+39	22	+34	+30	+30	24	27	28	24	2230
2200	28	20	26	*40	27	+36	+31	25	19	23	+35	20	2300
2230	+34	20	+32	+33	26	+36	+33	23	+30	+30	21	21	2330
2300	29	21	+31	+34	27	+30	+30	22	26	27	25	23	0000
2330	+30	23	+36	+32	27	25	+31	22	24	25	27	28	0030

Period of record: 1 Sep 1980 - 31 August 1986
Prepared by: 6585 TestG/WE and OL-A, 2 Weather Sq
    + = Max Speeds GE 30 kts   * = Max Speeds GE 40 kts

A-4

Mean Maximum Wind Speed (Knots)
for 30 minutes preceding time indicated
TIX Anemometer -- Holloman High Speed Test Track

MST	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MDT
0000	5.8	6.7	7.5	7.9	7.8	8.3	7.7	7.6	6.9	6.1	6.3	5.7	0100
0030	5.7	6.3	7.5	8.0	7.8	8.4	7.5	7.2	6.7	6.1	6.3	5.9	0130
0100	5.5	6.1	7.4	7.9	7.5	8.1	7.5	6.9	6.7	5.6	6.1	6.0	0200
0130	5.5	6.4	7.4	7.7	7.3	8.1	6.9	6.6	6.3	6.0	6.3	5.7	0230
0200	5.6	6.5	7.1	7.5	7.1	8.0	6.7	6.5	6.2	5.8	6.5	5.7	0300
0230	5.6	6.6	7.2	7.7	7.1	8.0	6.5	5.9	6.1	5.9	6.2	5.6	0330
0300	5.7	6.4	7.3	7.8	7.0	7.8	6.1	6.1	6.1	5.7	6.2	6.0	0400
0330	5.8	6.4	7.3	7.6	6.7	7.0	6.0	5.9	5.8	5.5	6.2	5.7	0430
0400	5.8	6.3	7.5	7.4	6.7	6.8	5.8	5.8	5.8	5.5	6.0	5.5	0500
0430	5.8	6.1	7.2	7.3	6.6	6.5	5.4	5.5	5.8	5.6	6.1	5.5	0530
0500	5.5	5.9	7.0	7.0	6.6	6.3	5.2	5.4	5.7	5.4	6.1	5.7	0600
0530	5.3	6.1	6.8	7.0	6.5	6.1	5.0	5.2	5.4	5.3	6.0	5.5	0630
0600	5.4	6.0	6.9	7.0	6.1	5.6	5.0	5.0	5.2	5.1	6.0	5.4	0700
0630	5.4	6.2	6.7	7.1	6.3	5.8	4.8	4.8	5.1	5.0	6.2	5.5	0730
0700	5.2	6.0	6.4	7.5	7.1	6.6	5.2	5.0	4.8	4.7	5.9	5.4	0800
0730	5.2	5.6	6.7	8.7	7.9	6.9	6.0	5.4	5.1	4.7	5.7	5.3	0830
0800	5.2	5.8	7.3	9.4	8.7	7.8	6.4	8.4	5.5	5.3	5.9	5.3	0900
0830	5.1	6.5	8.8	10.4	9.4	8.6	7.1	6.4	6.3	6.3	6.4	5.6	0930
0900	5.8	7.2	9.5	11.0	10.6	9.2	7.8	6.8	6.8	7.2	7.1	6.2	1000
0930	6.6	8.2	10.5	11.6	11.5	9.7	8.1	7.4	7.4	8.0	7.9	6.6	1030
1000	7.4	8.8	11.4	11.9	12.3	10.2	8.8	8.0	8.0	8.7	8.6	7.3	1100
1030	8.0	9.4	12.2	12.9	12.7	10.9	9.4	8.4	8.7	9.1	9.1	7.6	1130
1100	7.9	10.0	12.6	13.7	13.5	11.5	10.2	9.3	9.3	9.8	9.8	7.8	1200
1130	8.1	10.5	13.1	14.4	14.0	12.2	11.0	10.1	9.8	10.4	10.0	8.4	1230
1200	8.5	10.9	14.2	15.1	14.7	12.4	11.5	10.5	10.3	10.5	10.4	8.6	1300
1230	8.8	11.3	14.5	15.5	15.1	13.1	12.1	10.9	11.0	10.6	10.2	8.7	1330
1300	8.9	11.3	15.1	16.0	15.6	13.6	12.8	11.5	11.4	11.1	10.3	8.8	1400
1330	8.8	11.9	15.0	16.1	16.2	13.8	13.5	12.0	11.5	11.1	10.3	8.8	1430
1400	8.8	11.7	15.3	16.6	16.6	14.2	14.3	12.9	11.7	11.1	10.5	9.1	1500
1430	8.7	11.7	15.6	16.3	17.3	14.5	13.9	13.4	11.9	10.9	10.4	9.1	1530
1500	8.8	11.8	15.7	16.7	16.8	14.7	14.2	13.8	12.0	10.8	10.0	8.5	1600
1530	8.7	11.6	15.1	17.2	16.9	15.0	13.9	13.8	12.2	10.6	9.8	8.0	1630
1600	8.2	11.2	14.7	16.7	16.6	14.6	13.7	13.0	11.7	10.0	8.8	7.7	1700
1630	7.9	10.2	14.1	16.2	17.1	14.5	13.5	12.3	10.9	9.2	8.0	7.1	1730
1700	7.1	9.4	13.1	15.5	16.2	14.5	13.3	11.3	10.5	8.6	6.9	5.8	1800
1730	6.0	8.1	11.9	14.7	15.4	14.4	12.8	10.7	9.7	7.0	6.5	5.3	1830
1800	5.6	7.2	10.5	13.2	13.9	13.1	12.0	10.2	8.2	6.1	6.6	5.7	1900
1830	6.0	7.0	9.4	11.8	12.6	11.6	11.1	9.1	7.3	6.3	6.6	5.6	1930
1900	6.2	7.1	8.5	10.8	11.1	10.1	9.6	8.8	7.1	6.5	7.1	6.1	2000
1930	6.4	7.1	8.7	9.9	9.8	9.1	8.8	8.6	7.2	6.6	7.4	6.2	2030
2000	6.5	7.3	8.7	9.6	9.6	8.9	8.5	8.6	7.3	6.7	7.3	6.4	2100
2030	6.2	7.2	8.6	9.5	9.3	8.7	8.4	8.0	7.4	6.8	7.1	6.3	2130
2100	6.3	7.1	8.2	8.9	9.1	8.3	8.3	8.2	7.5	6.7	6.7	6.2	2200
2130	6.2	6.9	7.8	8.7	8.8	9.0	7.9	8.0	7.2	6.4	6.9	6.1	2230
2200	6.3	6.6	7.7	8.0	8.6	8.7	8.3	7.7	6.9	6.5	6.7	5.9	2300
2230	6.2	6.5	8.1	8.5	7.8	9.0	8.3	7.9	7.0	6.6	6.5	6.0	2330
2300	6.2	6.8	8.0	8.4	7.9	8.9	8.1	7.6	7.1	6.2	6.4	5.5	0000
2330	6.1	6.6	7.7	7.8	8.1	8.6	8.6	7.6	7.2	6.2	6.6	5.5	0030

Period of record: 1 Sep 1980 - 31 August 1986
Prepared by: 6585 TestG/WE and OL-A, 2 Weather Sq

APPENDIX B - Monthly Summaries
WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: JAN   Year(s): 81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	55	71	0	3.8	16	0	2.3	11	0	5.8	29	170	165
30	56	72	0	3.7	15	0	2.1	10	0	5.7	22	170	165
100	47	77	0	3.6	17	0	2.0	8	0	5.5	22	170	165
130	51	74	0	3.6	13	0	2.1	9	0	5.5	23	170	165
200	45	69	0	3.8	17	0	2.0	10	0	5.6	25	170	165
230	38	72	0	3.9	16	0	2.2	10	0	5.6	27	170	165
300	45	71	0	3.9	15	0	2.2	10	0	5.7	26	170	165
330	48	72	0	3.9	22	0	2.1	12	0	5.8	27	170	165
400	39	73	0	4.0	20	0	2.2	12	0	5.8	34	170	165
430	42	70	0	3.8	18	0	2.2	13	0	5.8	28	170	165
500	39	74	0	3.7	17	0	2.2	12	0	5.5	25	170	165
530	50	70	0	3.4	17	0	2.0	11	0	5.3	22	170	165
600	51	82	0	3.7	23	0	2.0	12	0	5.4	30	170	165
630	54	83	0	3.5	15	0	2.0	11	0	5.4	23	170	165
700	42	81	0	3.3	16	0	1.8	10	0	5.2	25	170	165
730	44	73	0	3.3	16	0	1.8	9	0	5.2	30	170	165
800	52	70	0	3.2	22	0	1.7	11	0	5.2	34	170	165
830	74	88	0	3.3	16	0	1.7	10	0	5.1	35	169	161
900	126	105	0	3.7	16	0	1.8	10	0	5.8	26	172	164
930	206	118	0	4.5	20	0	2.3	11	0	6.6	34	172	166
1000	229	98	0	4.7	20	0	2.4	12	0	7.4	34	172	166
1030	231	95	0	5.2	22	0	2.6	14	1	8.0	32	170	164
1100	241	91	0	5.2	20	0	2.6	12	1	7.9	29	172	165
1130	252	79	0	5.1	16	0	2.4	12	0	8.1	29	173	168
1200	237	74	0	5.1	18	0	2.3	11	1	8.5	24	171	165
1230	241	75	0	5.4	20	0	2.4	11	2	8.8	27	171	164
1300	240	68	0	5.1	22	0	2.3	12	1	8.9	30	170	163
1330	239	77	0	5.1	21	0	2.2	14	1	8.8	32	171	165
1400	237	62	0	5.2	20	0	2.2	13	1	8.8	30	169	163
1430	233	68	0	5.3	22	0	2.4	11	2	8.7	31	169	163
1500	234	72	0	5.5	20	0	2.6	12	1	8.8	30	172	165
1530	233	70	0	5.5	21	0	2.8	11	1	8.7	30	172	166
1600	226	77	0	5.3	18	0	2.9	11	1	8.2	30	172	166
1630	230	74	0	5.1	18	0	3.0	13	1	7.9	29	173	167
1700	230	86	0	4.3	16	0	2.8	13	0	7.1	28	172	166
1730	207	101	0	3.7	19	0	2.2	10	0	6.0	26	172	166
1800	140	125	0	3.8	17	0	2.3	12	0	5.6	27	172	166
1830	81	99	0	4.2	22	0	2.5	11	0	6.0	32	172	166
1900	72	83	0	4.3	14	0	2.7	10	0	6.2	26	172	166
1930	68	67	0	4.5	17	0	2.7	10	0	6.4	26	172	166
2000	67	69	0	4.4	18	0	2.8	11	0	6.5	28	172	166
2030	67	69	0	4.3	15	0	2.9	9	0	6.2	26	172	166
2100	64	69	0	4.5	22	0	2.8	10	0	6.3	28	172	166
2130	62	72	0	4.5	28	0	2.8	11	1	6.2	28	172	166
2200	68	67	0	4.5	20	0	2.7	12	1	6.3	28	172	166
2230	64	65	0	4.4	25	0	2.8	12	0	6.2	34	172	166
2300	69	72	0	4.2	22	0	2.6	11	0	6.2	29	172	166
2330	65	73	0	4.3	20	0	2.6	14	0	6.1	30	172	166

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: JAN   Year(s):   81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	# CALM	MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	27.3	45	73	39	7	1	2.4	4	22	105	21	8	5
30	30.3	50	75	32	8	0	1.8	3	26	98	24	11	3
100	31.5	52	77	27	9	0	1.8	3	33	94	23	9	3
130	33.3	55	66	38	6	0	2.4	4	41	82	24	10	4
200	31.5	52	81	27	5	0	1.8	3	40	79	31	10	2
230	26.1	43	81	32	9	0	2.4	4	39	92	15	11	4
300	29.7	49	79	29	8	0	1.2	2	37	94	17	10	5
330	31.5	52	75	29	8	1	1.8	3	36	88	25	6	7
400	30.9	51	71	33	8	2	2.4	4	34	91	23	7	6
430	29.7	49	75	33	7	1	1.8	3	29	98	23	5	7
500	29.1	48	81	31	4	1	1.2	2	37	87	31	4	4
530	32.7	54	71	35	4	1	3.0	5	41	87	19	7	6
600	37.0	61	67	29	6	2	2.4	4	38	89	24	5	5
630	37.0	61	69	29	5	1	3.6	6	45	75	27	6	6
700	40.0	66	68	26	5	0	2.4	4	51	80	18	8	4
730	40.0	66	69	25	5	0	4.2	7	49	74	22	8	5
800	47.3	78	57	24	5	1	5.5	9	61	60	21	9	5
830	44.7	72	60	21	8	0	5.6	9	57	63	12	16	4
900	42.1	69	62	20	13	0	2.4	4	55	58	24	15	8
930	36.7	61	62	26	15	2	3.0	5	50	53	25	24	9
1000	31.9	53	69	21	22	1	1.8	3	44	56	26	20	17
1030	32.9	54	65	19	22	4	.0	0	31	65	26	23	19
1100	28.5	47	73	21	21	3	.0	0	27	67	32	20	19
1130	32.1	54	66	35	10	3	1.8	3	26	54	44	27	14
1200	33.9	56	63	32	12	2	.0	0	21	52	54	22	16
1230	29.3	48	69	30	16	1	.0	0	14	52	58	24	16
1300	31.9	52	69	30	9	3	.0	0	18	51	47	30	17
1330	32.1	53	77	22	10	3	.0	0	11	65	45	29	15
1400	32.5	53	77	17	12	4	.0	0	16	54	51	25	17
1430	28.2	46	75	23	16	3	.0	0	13	61	48	21	20
1500	25.5	42	78	25	19	1	.0	0	14	62	46	22	21
1530	24.1	40	72	33	19	2	.0	0	18	63	42	25	18
1600	21.7	36	74	32	22	2	.0	0	22	66	36	24	18
1630	21.6	36	76	30	23	2	.0	0	26	73	31	18	19
1700	24.1	40	76	31	17	2	1.2	2	50	54	24	17	19
1730	33.1	55	70	27	14	0	3.6	6	58	53	22	18	9
1800	30.1	50	73	34	8	1	4.2	7	51	67	19	17	5
1830	26.5	44	75	35	11	1	4.8	8	37	82	15	16	8
1900	21.1	35	77	45	9	0	3.0	5	29	83	31	11	7
1930	19.3	32	83	43	8	0	.6	1	25	92	29	15	4
2000	19.3	32	76	50	7	1	1.2	2	16	99	34	7	8
2030	18.7	31	72	56	7	0	1.8	3	18	101	28	11	5
2100	20.5	34	69	56	7	0	.6	1	22	99	28	11	5
2130	18.1	30	76	53	6	1	.0	0	20	103	30	7	6
2200	21.1	35	71	55	3	2	.0	0	28	94	29	10	5
2230	20.5	34	71	53	7	1	1.2	2	24	96	24	14	6
2300	16.3	27	93	40	5	1	.6	1	23	94	34	10	4
2330	19.9	33	81	44	6	2	1.2	2	28	92	28	11	5

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: JAN   Year(s): 81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	763	10	4.3	265	445	34	13	6					
60	808	11	3.7	399	376	11	14	6	2				
90	621	9	3.5	289	323	9							
120	529	7	4.1	204	271	50	4						
150	696	10	5.9	192	258	178	65	3					
180	585	8	5.4	188	227	125	42	3					
210	558	8	5.4	237	163	98	42	18					
240	479	7	4.9	242	134	52	34	12	5				
270	410	6	3.7	231	136	31	10	2					
300	385	5	4.4	196	113	54	18	4					
330	660	9	6.6	196	175	170	102	13	3	1			
360	791	11	5.2	277	274	188	46	5	1				

Number of calm occurrences: 828
Number of non-calm occurrences: 7285

Number of occurrences used: 8113   #Calm/#Occ= 10%
Number of cases rejected: 815

Possible number of occurrences: 8928

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: FEB   Year(s): 81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	69	75	0	4.4	17	0	2.7	9	0	6.7	19	161	161
30	66	73	0	4.2	14	0	2.5	9	0	6.3	24	161	161
100	54	84	0	3.9	15	0	2.3	10	1	6.1	18	161	161
130	53	77	0	4.4	18	0	2.3	9	0	6.4	21	161	161
200	52	78	0	4.6	15	0	2.7	10	0	6.5	20	161	161
230	61	74	0	4.4	20	0	2.6	10	0	6.6	28	161	161
300	57	73	0	4.4	20	0	2.7	13	2	6.4	27	161	161
330	57	70	0	4.3	21	0	2.5	14	1	6.4	26	161	161
400	58	69	0	4.1	13	0	2.5	12	0	6.3	21	161	161
430	66	72	0	4.0	17	0	2.4	11	0	6.1	23	161	161
500	63	72	0	3.8	17	0	2.3	12	0	5.9	28	161	161
530	57	75	0	3.9	15	0	2.1	11	0	6.1	26	161	161
600	60	71	0	3.9	17	0	2.2	10	0	6.0	24	161	161
630	57	72	0	4.2	14	0	2.1	10	0	6.2	24	161	161
700	63	77	0	3.7	15	0	2.2	10	1	6.0	21	161	161
730	76	78	0	3.5	16	0	2.0	11	0	5.6	23	160	160
800	99	91	0	3.7	17	0	2.0	11	0	5.6	24	161	161
830	141	104	0	4.5	20	0	2.1	11	0	6.5	23	162	162
900	189	98	0	4.8	17	0	2.5	11	0	7.2	25	164	163
930	215	84	0	5.5	20	0	2.7	13	0	8.2	25	163	163
1000	224	85	0	5.8	18	0	3.0	13	0	8.8	26	163	163
1030	235	75	0	6.0	19	0	2.9	12	0	9.4	30	164	163
1100	236	70	0	6.4	23	0	2.8	11	0	10.0	27	161	161
1130	235	67	0	6.5	23	0	2.8	14	0	10.5	33	163	163
1200	232	72	0	6.7	20	0	2.7	13	3	10.9	34	164	164
1230	234	70	0	6.5	20	0	2.7	11	4	11.3	28	165	165
1300	232	63	0	6.1	21	0	2.3	11	3	11.3	33	165	164
1330	235	61	0	6.9	29	0	2.4	15	2	11.9	39	165	164
1400	228	66	0	6.7	22	0	2.5	15	3	11.7	37	164	164
1430	232	73	0	6.6	22	0	2.5	15	3	11.7	39	163	163
1500	229	67	0	7.1	30	0	2.7	17	3	11.8	40	162	162
1530	221	63	0	6.8	25	0	3.0	17	2	11.6	41	162	162
1600	225	71	0	6.4	25	0	3.1	15	1	11.2	39	164	163
1630	213	73	0	6.5	26	0	3.2	14	1	10.2	39	164	164
1700	202	72	0	5.7	22	0	3.3	13	1	9.4	39	164	164
1730	184	75	0	4.7	22	0	3.1	14	0	8.1	37	164	164
1800	161	81	0	4.6	21	0	2.9	15	0	7.2	37	164	164
1830	144	88	0	4.8	20	0	3.1	13	0	7.0	42	164	164
1900	122	79	0	4.8	20	0	3.1	12	0	7.1	30	164	164
1930	106	82	0	5.1	15	0	3.1	10	0	7.1	27	163	163
2000	94	78	0	5.1	16	0	3.3	11	0	7.3	25	162	162
2030	88	77	0	5.0	15	0	3.2	10	1	7.2	26	163	163
2100	85	82	0	4.9	20	0	3.1	10	1	7.1	28	163	163
2130	79	92	0	4.7	14	0	3.1	10	1	6.9	22	163	163
2200	87	87	0	4.4	15	0	2.7	10	0	6.6	20	163	163
2230	89	81	0	4.6	19	0	2.8	9	0	6.5	20	162	162
2300	85	73	0	4.6	14	0	2.8	11	0	6.8	21	162	162
2330	76	79	0	4.6	14	0	2.8	9	1	6.6	23	161	161

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: FEB   Year(s): 81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	CALM	# MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	24.2	39	67	46	9	0	1.2	2	12	88	41	12	6
30	21.1	34	79	43	5	0	1.2	2	19	91	33	10	6
100	26.7	43	74	39	5	0	.0	0	25	86	39	7	4
130	24.8	40	77	38	6	0	.6	1	20	82	39	14	5
200	19.9	32	79	41	9	0	1.2	2	16	90	34	16	3
230	18.6	30	79	47	5	0	.6	1	20	88	33	16	3
300	21.1	34	78	39	8	2	.0	0	21	92	28	17	3
330	19.9	32	83	36	8	2	.0	0	19	90	36	11	5
400	21.7	35	76	43	6	1	1.2	2	24	89	28	11	7
430	23.6	38	75	40	7	1	2.5	4	23	80	37	13	4
500	26.7	43	73	40	4	1	3.1	5	21	89	35	7	4
530	29.2	47	70	39	4	1	1.9	3	29	85	29	11	4
600	29.2	47	73	34	7	0	.6	1	33	85	27	9	6
630	29.8	48	74	31	8	0	.6	1	30	84	31	9	6
700	31.1	50	67	35	9	0	.0	0	32	77	38	10	4
730	35.6	57	68	29	5	1	3.1	5	33	77	34	9	2
800	33.5	54	73	26	7	1	5.0	8	40	69	29	11	4
830	36.4	59	63	28	10	2	4.3	7	34	57	37	20	7
900	31.9	52	62	34	14	1	1.2	2	38	51	40	21	11
930	28.8	47	62	36	13	5	1.8	3	28	45	46	24	17
1000	27.6	45	59	34	22	3	.6	1	19	44	56	24	19
1030	26.4	43	63	32	24	1	.6	1	17	41	51	34	19
1100	24.8	40	65	34	20	2	.6	1	4	47	51	34	24
1130	25.2	41	66	33	21	2	1.2	2	0	36	60	40	25
1200	26.8	44	64	33	21	2	.0	0	2	35	62	36	29
1230	26.1	43	69	33	18	2	.0	0	0	21	73	41	30
1300	28.7	47	79	23	14	1	.0	0	2	20	68	47	27
1330	27.4	45	79	23	14	3	.0	0	3	14	69	51	27
1400	25.0	41	80	25	15	3	.0	0	2	17	73	42	30
1430	27.6	45	77	22	15	4	.0	0	1	21	65	42	32
1500	27.8	45	70	23	19	5	.0	0	1	18	67	47	29
1530	23.5	38	68	34	15	7	.0	0	4	31	54	41	32
1600	20.9	34	72	33	19	5	.0	0	4	40	52	40	27
1630	23.2	38	63	41	16	6	.0	0	6	48	52	33	25
1700	20.7	34	61	48	18	3	.0	0	15	47	49	34	19
1730	20.1	33	68	46	15	2	1.2	2	30	58	36	22	16
1800	20.7	34	73	45	9	3	2.4	4	36	64	25	22	13
1830	21.3	35	66	49	10	4	2.4	4	35	68	30	15	12
1900	20.1	33	64	49	17	1	2.4	4	26	75	29	19	11
1930	19.0	31	59	64	9	0	3.7	6	20	64	40	25	8
2000	14.8	24	68	57	12	1	1.2	2	11	76	45	19	9
2030	15.3	25	63	64	11	0	.0	0	10	89	41	17	6
2100	12.9	21	70	66	6	0	.0	0	14	89	38	18	4
2130	12.9	21	71	64	7	0	.0	0	16	84	41	20	2
2200	17.8	29	81	48	5	0	.6	1	16	85	43	15	3
2230	21.0	34	67	52	9	0	.6	1	14	89	44	12	2
2300	21.0	34	70	54	3	1	.6	1	14	78	51	13	5
2330	16.1	26	72	56	7	0	.0	0	14	91	40	12	4

B2-2

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: FEB   Year(s): 81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	Wind Speed Categories (Number of occurrences)									
				1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	602	9	4.3	193	365	39	4	1					
60	662	9	3.9	257	384	18	3						
90	600	9	4.1	216	348	32	3	1					
120	597	8	4.8	175	325	83	12	2					
150	816	12	6.3	176	318	230	78	13	1				
180	681	10	5.9	179	260	167	65	10					
210	692	10	6.5	191	214	182	85	16	4				
240	533	8	6.0	176	183	104	47	18	3	2			
270	397	6	4.7	157	149	78	9	3	1				
300	358	5	5.3	145	113	68	24	7	1				
330	493	7	7.5	116	127	124	99	20	7				
360	609	9	5.6	197	215	142	45	10					

Number of calm occurrences: 567
Number of non-calm occurrences: 7040

Number of occurrences used: 7607   #Calm/#Occ=   7%
Number of cases rejected: 505

Possible number of occurrences: 8064

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: MAR   Year(s):   81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	103	80	0	5.1	22	0	3.2	12	1	7.5	26	184	184
30	95	83	0	5.0	17	0	3.1	11	1	7.5	27	184	184
100	86	83	0	5.0	20	0	2.8	11	1	7.4	31	183	183
130	87	79	0	4.8	18	0	2.9	12	1	7.4	27	183	183
200	83	85	0	4.7	18	0	2.9	12	1	7.1	31	183	183
230	71	86	0	4.7	16	0	2.7	13	0	7.2	32	183	183
300	70	85	0	4.6	19	0	2.8	12	0	7.3	31	182	182
330	65	77	0	4.9	23	0	2.8	14	1	7.3	32	182	182
400	72	78	0	4.8	24	0	2.8	14	1	7.5	34	182	182
430	67	76	0	4.7	19	0	2.8	12	0	7.2	42	182	182
500	69	70	0	4.6	14	0	2.6	9	0	7.0	27	182	182
530	77	74	0	4.5	18	0	2.6	10	0	6.8	27	182	182
600	77	78	0	4.2	16	0	2.5	10	0	6.9	28	182	182
630	75	85	0	4.0	18	0	2.4	12	1	6.7	28	182	182
700	80	84	0	4.0	12	0	2.3	11	1	6.4	27	182	182
730	93	97	0	4.3	20	0	2.3	13	0	6.7	27	182	182
800	178	101	0	4.8	22	0	2.5	11	0	7.3	33	180	180
830	216	86	0	5.6	23	0	2.8	12	0	8.3	30	180	179
900	221	77	0	6.3	25	0	3.1	14	1	9.5	33	182	182
930	228	72	0	6.7	24	0	3.2	13	2	10.5	38	183	182
1000	233	63	0	7.1	22	0	3.2	15	2	11.4	41	183	182
1030	237	57	0	7.3	30	0	3.4	15	0	12.2	45	182	182
1100	233	56	0	7.5	24	0	3.2	15	3	12.6	35	184	184
1130	235	57	0	7.6	26	0	3.1	15	0	13.1	36	184	184
1200	228	57	0	8.1	28	0	3.2	16	4	14.2	41	183	183
1230	229	56	0	8.2	30	0	3.2	18	3	14.5	47	183	183
1300	231	56	0	8.6	32	0	3.4	17	5	15.1	51	183	183
1330	232	55	1	9.0	30	0	3.6	17	5	15.0	46	183	182
1400	233	50	0	8.5	29	0	3.5	16	5	15.3	44	183	182
1430	225	55	0	8.8	30	0	3.8	14	5	15.6	42	182	181
1500	229	52	0	9.5	25	0	4.0	15	4	15.7	38	183	183
1530	226	55	0	8.8	26	0	4.3	14	5	15.1	38	183	183
1600	219	61	0	8.6	28	0	4.3	16	4	14.7	43	183	183
1630	224	60	0	8.6	23	0	4.4	15	4	14.1	36	183	183
1700	219	59	0	8.0	20	0	4.5	15	3	13.1	34	184	182
1730	208	66	0	7.2	22	0	4.4	12	2	11.9	36	184	184
1800	200	73	0	6.4	20	0	4.2	13	0	10.5	32	184	184
1830	175	85	0	6.2	20	0	3.9	12	0	9.4	32	184	184
1900	158	81	0	6.0	23	0	3.8	12	0	8.9	39	184	184
1930	148	81	0	5.8	20	0	3.9	12	0	8.7	30	184	184
2000	137	88	0	5.8	20	0	3.8	13	0	8.7	32	184	184
2030	128	85	0	5.9	21	0	3.7	15	0	8.6	30	184	184
2100	123	84	0	5.5	17	0	3.7	15	0	8.2	30	184	184
2130	124	84	0	5.4	25	0	3.3	13	2	7.8	27	184	184
2200	133	89	0	5.2	18	0	3.3	12	2	7.7	26	183	183
2230	122	89	0	5.7	29	0	3.3	10	0	8.1	32	183	183
2300	117	95	0	5.4	20	0	3.3	12	0	8.0	31	184	184
2330	115	94	0	5.4	18	0	3.4	11	1	7.7	36	182	182

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: MAR   Year(s):   81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	# CALM	MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	15.2	28	78	63	14	1	.0	0	15	96	41	20	12
30	13.0	24	80	66	13	1	.0	0	16	90	50	16	12
100	21.3	39	77	55	11	1	.0	0	15	94	47	17	10
130	14.8	27	88	54	13	1	.0	0	12	100	43	15	13
200	19.1	35	85	46	16	1	.0	0	17	98	38	20	10
230	18.6	34	90	50	8	1	.5	1	16	101	39	14	12
300	16.5	30	89	48	14	1	.5	1	13	106	36	12	14
330	18.1	33	85	57	5	2	.0	0	18	92	48	11	13
400	17.0	31	94	47	7	3	.0	0	17	89	49	16	11
430	17.0	31	90	48	12	1	.5	1	17	101	36	16	11
500	17.6	32	96	44	10	0	.5	1	17	99	39	16	10
530	19.2	35	89	48	10	0	1.1	2	22	96	35	20	7
600	25.3	46	84	40	12	0	.5	1	20	99	36	18	8
630	20.3	37	96	41	7	1	.0	0	24	102	30	17	9
700	24.7	45	90	40	6	1	.0	0	31	99	29	18	5
730	26.4	48	87	36	10	1	2.2	4	42	71	38	14	13
800	26.7	48	76	40	15	1	.6	1	42	60	37	27	13
830	25.7	46	77	30	25	1	1.1	2	28	64	34	31	20
900	22.5	41	75	38	23	5	.0	0	18	57	51	28	28
930	19.8	36	79	35	28	4	.0	0	12	51	50	35	34
1000	17.6	32	88	31	26	5	.0	0	8	41	58	38	37
1030	19.2	35	79	36	22	10	.5	1	3	34	57	46	41
1100	18.5	34	84	38	16	12	.0	0	1	27	59	54	43
1130	17.9	33	90	32	20	9	.5	1	2	15	66	53	47
1200	19.1	35	85	32	23	8	.0	0	0	15	57	56	55
1230	23.0	42	77	33	22	9	.0	0	1	9	59	59	55
1300	20.8	38	75	39	18	13	.0	0	0	9	53	57	64
1330	15.4	28	84	31	28	11	.0	0	0	9	53	59	61
1400	21.4	39	73	27	31	12	.0	0	0	8	52	51	71
1430	18.2	33	71	37	26	14	.0	0	0	5	44	69	63
1500	20.8	38	65	31	32	17	.0	0	0	10	43	53	77
1530	16.9	31	68	25	41	18	.0	0	0	12	49	56	66
1600	19.7	36	60	32	41	14	.0	0	0	17	56	47	63
1630	18.6	34	55	39	39	16	.0	0	0	26	46	52	59
1700	10.4	19	65	51	31	16	.0	0	3	39	43	47	50
1730	11.4	21	63	46	46	8	.0	0	6	50	40	40	48
1800	12.0	22	64	52	41	5	1.1	2	22	51	38	25	46
1830	15.2	28	58	58	35	5	1.6	3	23	74	18	28	38
1900	16.3	30	54	69	29	2	.5	1	22	72	31	35	23
1930	11.4	21	59	78	21	5	.5	1	15	79	38	32	19
2000	10.9	20	67	73	20	4	1.1	2	11	73	56	18	24
2030	11.4	21	64	80	17	2	.5	1	7	73	62	22	19
2100	11.4	21	68	75	17	3	2.2	4	4	87	56	17	16
2130	16.3	30	68	72	11	3	.0	0	5	96	52	17	14
2200	15.3	28	68	70	16	1	.0	0	10	90	54	15	14
2230	12.0	22	70	76	15	0	.5	1	11	88	49	20	14
2300	13.0	24	78	65	15	2	.5	1	15	80	53	21	14
2330	9.3	17	80	66	17	2	.0	0	9	90	50	21	12

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: MAR   Year(s):   81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	501	6	4.2	197	260	39	5						
60	610	7	4.0	239	346	21	3			1			
90	643	8	4.0	245	367	28	3						
120	641	8	4.5	172	409	54	6						
150	925	11	6.6	165	378	253	111	17	1				
180	895	11	7.3	169	270	280	144	28	4				
210	1115	14	8.3	176	298	317	251	62	9	2			
240	946	12	9.0	178	231	214	206	78	33	6			
270	530	6	6.9	143	176	118	56	24	11	2			
300	412	5	6.9	105	126	106	57	13	5				
330	446	5	6.5	134	118	132	51	8	3				
360	540	7	5.7	183	189	109	46	10	3				

Number of calm occurrences: 340
Number of non-calm occurrences: 8204

Number of occurrences used: 8544   #Calm/#Occ=   4%
Number of cases rejected: 384

Possible number of occurrences: 8928

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: APR   Year(s):   81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	108	87	0	5.4	20	0	3.2	14	0	7.9	34	175	175
30	117	88	0	5.2	17	0	3.2	11	0	8.0	36	174	174
100	99	86	0	5.1	18	0	3.2	10	0	7.9	39	174	174
130	102	97	0	5.3	25	0	3.0	12	0	7.7	32	174	174
200	91	92	0	5.1	20	0	3.0	14	0	7.5	35	172	172
230	92	87	0	5.5	31	0	3.1	12	0	7.7	31	172	172
300	70	87	0	5.1	20	0	3.1	12	0	7.8	36	171	171
330	69	80	0	4.8	22	0	3.0	15	0	7.6	40	171	171
400	74	79	0	4.7	20	0	2.8	12	0	7.4	35	172	172
430	75	82	0	4.8	20	0	2.9	16	0	7.3	34	172	172
500	79	88	0	4.6	26	0	2.7	15	0	7.0	38	171	171
530	77	84	0	4.6	26	0	2.6	14	0	7.0	39	171	171
600	77	76	0	4.6	26	0	2.7	16	0	7.0	37	172	172
630	83	94	0	4.5	26	0	2.6	17	0	7.1	36	173	173
700	112	105	0	5.1	28	0	2.8	16	0	7.5	38	173	172
730	174	95	0	5.9	24	0	3.2	14	0	8.7	35	172	172
800	205	85	0	6.3	27	0	3.6	14	0	9.4	33	174	174
830	217	69	0	6.9	25	0	3.7	14	2	10.4	46	174	174
900	225	62	0	7.4	42	0	3.4	17	1	11.0	42	175	173
930	224	59	0	7.1	26	0	3.5	16	1	11.6	41	176	176
1000	229	56	0	6.9	27	0	3.1	15	3	11.9	38	175	175
1030	230	52	0	7.6	26	0	2.9	15	3	12.9	41	176	176
1100	233	55	0	7.9	24	0	3.1	14	4	13.7	39	176	176
1130	225	49	0	8.0	25	0	3.0	14	0	14.4	36	176	176
1200	229	47	0	8.6	24	0	3.4	16	4	15.1	37	176	176
1230	227	50	0	8.7	33	0	3.3	15	4	15.5	38	176	176
1300	222	50	0	9.0	29	0	3.4	15	7	16.0	38	172	171
1330	225	45	1	9.5	28	0	3.5	15	6	16.1	36	175	175
1400	228	47	0	9.6	26	0	3.6	18	6	16.6	40	174	173
1430	226	47	0	9.5	28	0	3.8	15	5	16.3	40	175	174
1500	225	53	1	9.1	25	0	4.1	15	5	16.7	40	176	176
1530	222	55	0	9.8	29	0	4.4	16	6	17.2	46	176	175
1600	218	57	0	10.3	28	0	4.8	16	4	16.7	43	177	177
1630	215	54	0	10.1	30	0	5.1	15	4	16.2	40	177	177
1700	216	53	0	9.5	35	0	5.1	16	2	15.5	42	176	176
1730	211	57	0	9.2	24	0	5.3	19	1	14.7	37	177	177
1800	206	60	0	8.0	22	0	5.1	14	0	13.2	37	177	176
1830	201	62	0	7.4	27	0	4.9	12	1	11.8	39	177	177
1900	193	67	0	7.1	28	0	4.8	15	0	10.8	39	176	176
1930	185	74	0	6.6	27	0	4.5	14	0	9.9	37	176	176
2000	178	76	0	6.5	28	0	4.4	14	0	9.6	42	177	177
2030	166	82	0	6.2	30	0	4.1	13	0	9.5	42	176	176
2100	153	90	0	5.9	28	0	4.0	12	0	8.9	40	175	175
2130	157	89	0	5.8	26	0	3.6	15	0	8.7	39	176	176
2200	161	99	0	5.6	30	0	3.6	12	0	8.6	40	176	176
2230	136	96	0	6.0	27	0	3.5	14	0	8.5	33	176	176
2300	125	96	0	5.5	20	0	3.4	13	0	8.4	34	176	176
2330	123	97	0	5.4	18	0	3.3	12	0	7.8	32	174	174

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: APR   Year(s): 81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	# CALM	MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	12.6	22	79	60	12	2	.6	1	9	84	53	18	10
30	14.4	25	74	60	14	1	1.1	2	7	79	59	15	12
100	13.8	24	72	63	15	0	1.7	3	12	72	57	16	14
130	15.5	27	81	54	10	2	1.1	2	15	69	62	15	11
200	16.9	29	75	53	14	1	1.2	2	14	80	53	13	10
230	14.0	24	75	59	13	1	1.2	2	17	79	46	18	10
300	13.5	23	84	51	11	2	1.2	2	11	83	49	15	11
330	15.8	27	83	49	10	2	1.2	2	15	81	46	16	11
400	14.0	24	92	42	12	2	1.2	2	11	95	41	12	11
430	14.0	24	95	42	9	2	1.2	2	14	92	41	15	8
500	17.5	30	87	43	10	1	1.8	3	13	93	38	17	7
530	19.3	33	81	46	9	2	.6	1	22	96	30	11	11
600	16.9	29	90	44	6	3	.6	1	23	83	42	15	8
630	19.7	34	88	41	8	2	2.3	4	29	77	36	15	12
700	20.9	36	76	47	11	2	.6	1	37	57	48	16	13
730	16.9	29	68	55	17	3	1.2	2	25	44	58	25	18
800	20.7	36	48	64	23	3	.6	1	21	42	50	38	22
830	18.4	32	59	53	27	3	.0	0	11	46	49	44	24
900	17.9	31	70	44	23	5	.0	0	6	37	52	54	24
930	15.9	28	67	53	25	3	.0	0	2	34	56	50	34
1000	14.3	25	84	46	16	4	.0	0	2	27	55	60	31
1030	15.9	28	91	36	18	3	.0	0	1	16	61	54	44
1100	12.5	22	95	35	21	3	.0	0	0	8	61	57	50
1130	14.8	26	94	31	16	9	.6	1	0	8	45	69	53
1200	13.6	24	89	32	22	9	.0	0	0	7	43	71	55
1230	15.9	28	87	30	21	10	.0	0	0	3	38	79	56
1300	15.8	27	84	26	22	12	.0	0	0	0	38	72	61
1330	11.4	20	94	27	25	9	.0	0	0	2	33	77	63
1400	13.9	24	88	25	23	13	.0	0	0	2	33	64	74
1430	14.4	25	81	25	32	11	.0	0	0	1	40	65	68
1500	11.9	21	82	24	31	18	.0	0	0	4	29	70	73
1530	9.7	17	79	28	33	18	.0	0	0	4	36	56	79
1600	11.3	20	69	34	33	21	.0	0	0	9	33	58	77
1630	9.0	16	59	38	41	23	.0	0	0	11	40	51	75
1700	8.5	15	58	40	48	15	.0	0	4	14	49	39	70
1730	9.6	17	50	46	48	16	.0	0	1	26	40	45	65
1800	9.7	17	46	56	45	12	.6	1	8	33	37	41	56
1830	7.9	14	48	66	43	6	.0	0	11	47	40	34	45
1900	6.8	12	45	82	30	7	.6	1	16	57	31	36	35
1930	5.1	9	52	83	27	5	.6	1	13	59	41	37	25
2000	6.8	12	50	86	24	5	.6	1	13	58	53	26	26
2030	4.5	8	64	79	23	2	1.1	2	6	59	55	33	21
2100	4.0	7	70	78	17	3	.6	1	6	72	50	33	13
2130	8.0	14	74	68	16	4	.6	1	5	66	63	25	15
2200	6.8	12	77	71	15	1	.6	1	4	77	54	29	11
2230	11.4	20	67	72	15	2	.6	1	8	73	57	24	13
2300	11.4	20	75	64	15	2	.6	1	10	74	53	23	15
2330	13.2	23	71	66	12	2	.6	1	12	78	51	22	10

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: APR   Year(s):   81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	391	5	5.1	111	206	51	20	3					
60	499	6	4.6	179	253	38	27	2					
90	494	6	4.1	188	273	28	5						
120	604	8	5.0	153	330	104	13	4					
150	804	10	6.3	151	322	256	60	15					
180	921	12	7.6	145	291	298	147	28	12				
210	1302	17	9.0	139	341	425	272	93	25	7			
240	1201	15	9.9	155	248	330	286	121	53	6	1	1	
270	551	7	6.7	115	204	155	50	17	10				
300	309	4	5.6	88	124	66	26	4	1				
330	370	5	7.0	82	126	93	55	8	5	1			
360	430	5	5.5	115	195	88	27	4	1				

Number of calm occurrences: 217
Number of non-calm occurrences: 7876

Number of occurrences used: 8093   #Calm/#Occ=   3%
Number of cases rejected: 547

Possible number of occurrences: 8640

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: MAY   Year(s):   81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	106	97	0	5.2	23	0	2.8	12	1	7.8	29	176	176
30	87	95	0	4.8	20	0	2.8	12	1	7.8	31	176	176
100	85	90	0	4.9	20	0	2.7	14	2	7.5	31	176	176
130	86	81	0	4.9	29	0	2.8	10	2	7.3	36	175	175
200	65	83	0	4.8	22	0	2.7	10	2	7.1	37	175	175
230	74	86	0	4.8	22	0	2.8	14	1	7.1	33	174	174
300	75	78	0	4.6	28	0	2.8	15	2	7.0	33	174	174
330	71	81	0	4.7	32	0	2.7	15	0	6.7	36	174	174
400	64	76	0	4.6	24	0	2.5	15	2	6.7	34	174	174
430	64	69	0	4.5	24	0	2.5	15	1	6.6	38	175	175
500	58	68	0	4.7	23	0	2.6	14	1	6.6	35	173	173
530	60	66	0	4.4	19	0	2.4	13	1	6.5	31	174	174
600	72	74	0	3.9	18	0	2.2	14	2	6.1	29	171	171
630	82	93	0	4.2	20	0	2.0	9	1	6.3	26	171	171
700	146	107	0	4.8	20	0	2.4	10	0	7.1	27	171	169
730	208	95	0	5.3	26	0	2.7	12	0	7.9	28	172	172
800	217	85	0	5.8	24	0	2.7	11	0	8.7	29	174	172
830	229	64	0	6.1	22	0	2.7	12	1	9.4	30	176	176
900	224	60	0	7.0	25	0	2.8	13	3	10.6	31	175	174
930	227	58	0	7.2	26	0	2.7	12	3	11.5	41	177	177
1000	222	53	0	7.0	22	0	2.7	14	4	12.3	35	176	176
1030	222	50	0	7.5	20	0	2.4	12	1	12.7	34	174	174
1100	231	50	0	7.6	22	0	2.6	12	3	13.5	30	175	175
1130	225	52	0	7.4	22	0	2.4	12	5	14.0	32	174	174
1200	225	54	0	7.7	28	0	2.5	11	4	14.7	32	174	174
1230	224	51	0	8.0	24	0	2.3	12	5	15.1	32	174	174
1300	223	51	0	8.8	22	0	2.7	11	4	15.6	30	174	174
1330	221	56	0	8.7	23	0	2.7	11	6	16.2	33	175	175
1400	220	55	0	9.3	36	0	3.1	13	6	16.6	47	175	175
1430	219	50	0	9.3	22	0	3.2	13	7	17.3	48	174	174
1500	219	50	0	9.8	24	0	3.7	15	6	16.8	35	174	174
1530	220	51	0	9.6	26	0	4.0	14	6	16.9	35	176	176
1600	219	52	0	10.2	26	0	4.4	15	5	16.6	40	176	176
1630	216	60	0	10.5	38	0	4.8	13	5	17.1	42	177	176
1700	216	61	0	9.9	23	0	5.0	13	5	16.2	44	176	176
1730	207	63	0	9.8	23	0	5.3	13	2	15.4	35	177	177
1800	204	65	0	8.6	27	0	5.1	12	1	13.9	42	177	177
1830	191	67	0	7.6	22	0	4.8	14	0	12.6	38	178	178
1900	183	68	0	6.9	34	0	4.4	11	0	11.1	34	178	178
1930	171	77	0	6.3	20	0	4.1	12	0	9.8	33	177	177
2000	163	79	0	6.5	26	0	3.9	11	2	9.6	31	178	178
2030	156	84	0	6.3	25	0	4.0	12	0	9.3	29	178	178
2100	150	93	0	6.1	18	0	3.7	12	2	9.3	27	176	176
2130	131	100	0	6.0	17	0	3.4	10	2	8.8	22	176	176
2200	111	103	0	5.4	16	0	3.4	10	0	8.6	27	177	177
2230	107	100	0	5.4	17	0	3.1	11	2	7.8	26	177	177
2300	108	97	0	5.2	19	0	3.1	12	3	7.9	27	177	177
2330	108	92	0	5.4	21	0	3.0	11	0	8.1	27	177	177

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: MAY   Year(s):   81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	# CALM	MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	11.4	20	101	42	12	1	.0	0	6	81	60	19	10
30	18.2	32	89	45	9	1	.0	0	9	77	58	23	9
100	20.5	36	85	42	12	1	.0	0	13	83	55	17	8
130	17.1	30	85	48	12	0	.0	0	14	85	50	18	8
200	14.9	26	96	40	13	0	.0	0	13	87	55	13	7
230	16.1	28	89	47	8	2	.0	0	10	83	59	15	7
300	13.2	23	90	49	11	1	.0	0	14	79	64	11	6
330	11.5	20	101	45	6	2	.6	1	7	97	57	8	4
400	16.1	28	95	46	3	2	.0	0	13	87	63	7	4
430	17.1	30	100	40	3	2	.0	0	17	92	52	9	5
500	18.5	32	87	48	5	1	.0	0	21	89	45	12	6
530	17.8	31	96	39	7	1	.0	0	15	104	39	14	2
600	14.6	25	115	24	6	1	.0	0	18	103	36	12	2
630	22.8	39	99	25	8	0	.0	0	37	78	35	15	6
700	26.0	44	80	30	15	0	1.2	2	35	60	42	19	11
730	18.6	32	84	39	16	1	.6	1	21	57	56	28	9
800	23.3	40	78	36	15	3	.6	1	14	54	59	32	12
830	18.8	33	91	37	11	4	.0	0	8	48	64	39	17
900	14.9	26	95	36	13	4	.0	0	5	37	63	44	25
930	20.3	36	89	37	10	5	.0	0	3	16	79	55	24
1000	21.0	37	86	38	13	2	.0	0	0	14	70	57	35
1030	18.4	32	102	27	12	1	.0	0	2	8	64	65	35
1100	16.6	29	95	33	14	4	.0	0	2	5	53	74	41
1130	19.5	34	96	27	15	2	.0	0	0	4	42	82	46
1200	17.8	31	98	29	14	2	.0	0	0	5	38	76	55
1230	20.1	35	95	29	12	3	.0	0	0	2	32	81	59
1300	19.0	33	90	27	23	1	.0	0	0	1	32	74	67
1330	16.6	29	91	32	22	1	.0	0	0	1	28	73	73
1400	16.0	28	85	36	19	7	.0	0	0	1	25	77	72
1430	17.8	31	78	38	21	6	.0	0	0	0	24	67	83
1500	14.4	25	79	30	31	9	.0	0	0	2	28	59	85
1530	13.1	23	70	42	31	10	.0	0	0	3	41	48	84
1600	14.2	25	59	43	36	13	.0	0	0	6	41	48	81
1630	13.6	24	52	40	47	13	.0	0	0	2	42	50	82
1700	11.9	21	52	40	53	10	.0	0	0	14	37	40	85
1730	10.2	18	44	46	58	11	.0	0	2	14	39	40	82
1800	7.9	14	49	51	56	7	.0	0	3	28	34	48	64
1830	9.6	17	45	64	47	5	.6	1	14	28	38	46	51
1900	6.2	11	58	71	36	2	1.1	2	13	42	41	38	42
1930	7.9	14	63	68	30	2	.6	1	13	56	47	27	33
2000	8.4	15	66	71	25	1	.0	0	12	56	55	28	27
2030	7.9	14	58	78	27	1	.6	1	12	56	58	27	24
2100	9.7	17	65	74	19	1	.0	0	14	58	52	32	20
2130	9.7	17	79	63	17	0	.0	0	8	65	57	30	16
2200	9.6	17	82	59	19	0	.6	1	8	63	62	28	15
2230	11.9	21	92	50	13	1	.0	0	8	83	53	20	13
2300	10.7	19	90	55	12	1	.0	0	9	74	59	26	9
2330	14.1	25	86	54	11	1	.6	1	6	71	67	19	13

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: MAY   Year(s):   81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	453	6	5.0	144	231	52	16	8	2				
60	562	7	5.0	206	278	38	26	6	7	1			
90	535	7	4.8	147	301	70	16	1					
120	605	8	5.2	151	324	107	17	6					
150	831	10	7.5	126	297	225	140	40	3				
180	902	11	7.9	166	248	270	165	45	8				
210	1297	16	8.4	191	338	399	267	82	20				
240	990	12	8.3	134	275	313	200	62	6				
270	528	7	6.1	133	199	142	44	6	2		2		
300	370	5	6.3	100	134	84	41	7	3	1			
330	424	5	7.1	113	136	92	52	20	8	2	1		
360	452	6	5.7	135	179	90	34	10	4				

Number of calm occurrences: 248
Number of non-calm occurrences: 7949

Number of occurrences used: 8197   #Calm/#Occ=   3%
Number of cases rejected: 731

Possible number of occurrences: 8928

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: JUN   Year(s): 81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	133	82	0	5.8	20	0	3.6	17	0	8.3	30	169	169
30	121	77	0	5.6	15	0	3.5	12	2	8.4	31	169	169
100	116	75	0	5.3	18	0	3.5	14	1	8.1	25	169	169
130	113	79	0	5.6	23	0	3.4	13	0	8.1	39	169	169
200	108	82	0	5.5	22	0	3.4	14	1	8.0	33	169	169
230	91	75	0	5.3	16	0	3.4	14	1	8.0	31	169	169
300	99	76	0	4.9	26	0	3.0	12	1	7.8	39	169	169
330	88	80	0	4.8	16	0	2.9	16	1	7.0	40	169	169
400	80	73	0	4.4	20	0	2.7	13	0	6.8	24	169	169
430	68	68	0	4.3	20	0	2.6	12	2	6.5	35	169	169
500	56	67	0	4.2	14	0	2.5	10	0	6.3	28	169	169
530	63	68	0	3.9	13	0	2.3	10	0	6.1	23	169	169
600	51	75	0	3.6	14	0	2.2	8	0	5.6	17	167	167
630	59	98	0	4.1	17	0	2.1	11	0	5.8	23	166	166
700	171	128	0	4.3	16	0	2.2	12	0	6.6	26	166	165
730	193	93	0	4.8	22	0	2.4	12	1	6.9	28	167	167
800	219	79	0	5.2	20	0	2.5	12	1	7.8	26	167	166
830	227	70	0	5.5	20	0	2.6	13	2	8.6	40	168	168
900	231	65	0	5.7	24	0	2.5	12	2	9.2	28	168	168
930	227	58	0	5.9	20	0	2.4	13	2	9.7	31	168	167
1000	231	51	0	5.9	22	0	2.3	11	3	10.2	27	169	169
1030	227	52	0	6.2	19	0	2.1	11	2	10.9	25	169	167
1100	232	48	0	6.7	20	0	1.9	12	3	11.5	25	168	168
1130	230	49	0	6.7	18	0	2.0	11	3	12.2	33	167	167
1200	231	51	0	7.0	20	0	1.9	10	4	12.4	26	170	167
1230	231	50	0	7.2	20	0	2.1	10	4	13.1	25	171	171
1300	234	56	0	7.2	20	0	2.1	10	3	13.6	38	171	171
1330	221	52	0	7.5	25	0	2.3	9	5	13.8	31	171	171
1400	228	57	0	7.6	24	0	2.3	12	6	14.2	30	170	170
1430	227	65	0	7.5	20	0	2.7	10	4	14.5	38	168	168
1500	221	64	0	8.0	20	0	2.7	11	5	14.7	32	171	170
1530	216	56	0	8.4	20	0	3.3	14	5	15.0	38	173	173
1600	210	64	0	8.5	27	0	3.2	15	2	14.6	44	174	174
1630	220	71	1	8.6	23	0	3.7	13	3	14.5	31	173	173
1700	219	70	0	8.8	22	0	4.2	12	0	14.5	38	174	174
1730	209	72	0	8.6	22	0	4.7	16	0	14.4	38	174	174
1800	205	80	0	8.1	24	0	4.6	14	0	13.1	35	174	174
1830	190	76	0	7.4	22	0	4.6	13	0	11.6	35	173	173
1900	181	73	0	6.0	18	0	4.0	13	0	10.1	32	172	172
1930	169	70	0	5.8	20	0	3.6	12	0	9.1	34	172	172
2000	164	72	0	5.9	16	0	3.8	11	0	8.9	29	173	173
2030	166	74	0	5.7	20	0	3.8	12	0	8.7	29	173	173
2100	143	75	0	5.9	16	0	3.8	12	0	8.3	24	173	173
2130	136	76	0	5.9	23	0	3.6	12	0	9.0	34	173	173
2200	136	77	0	5.9	21	0	3.5	13	0	8.7	36	172	172
2230	138	75	0	6.0	19	0	3.7	13	0	9.0	36	172	172
2300	137	81	0	5.9	17	0	3.8	13	0	8.9	30	171	171
2330	137	84	0	5.8	17	0	3.7	13	0	8.6	25	171	171

Location: TDC   Month: JUN   Year(s):   81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	# CALM	MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	16.0	27	68	51	20	3	.6	1	10	65	53	23	17
30	18.3	31	59	50	27	2	.0	0	11	64	52	30	12
100	16.0	27	67	45	28	2	.0	0	15	63	52	29	10
130	18.9	32	63	55	16	3	.6	1	14	69	52	24	9
200	20.1	34	67	46	15	7	.0	0	15	66	55	22	11
230	14.8	25	72	54	13	5	.0	0	21	69	44	24	11
300	17.2	29	80	45	10	5	.0	0	13	78	48	18	12
330	17.2	29	86	40	10	4	.0	0	20	86	37	18	8
400	19.5	33	82	41	10	3	.6	1	18	91	40	10	9
430	22.5	38	86	33	9	3	.0	0	20	99	33	10	7
500	21.3	36	84	38	11	0	.6	1	24	87	43	10	4
530	23.7	40	87	35	7	0	.6	1	28	84	41	12	3
600	23.4	39	90	30	8	0	3.6	6	33	82	31	12	3
630	29.5	49	79	30	7	1	3.0	5	38	73	32	16	2
700	28.5	47	77	27	13	1	.6	1	33	70	36	19	6
730	28.7	48	74	31	13	1	.0	0	33	65	39	25	5
800	27.1	45	72	34	11	4	.0	0	20	63	50	26	7
830	24.4	41	72	37	15	3	.0	0	11	62	50	37	8
900	19.6	33	86	37	10	2	.0	0	6	47	67	39	9
930	18.6	31	94	34	7	1	.0	0	1	43	70	37	16
1000	19.5	33	95	30	10	1	.0	0	1	30	80	40	18
1030	22.8	38	96	22	10	1	.0	0	1	17	81	46	22
1100	27.4	46	92	23	6	1	.0	0	1	16	63	62	26
1130	23.4	39	98	23	6	1	.0	0	1	12	62	68	24
1200	29.9	50	87	22	8	0	.0	0	0	10	53	77	27
1230	20.5	35	103	21	12	0	.0	0	0	4	55	76	36
1300	23.4	40	88	31	12	0	.0	0	1	2	45	80	43
1330	26.9	46	84	24	17	0	.0	0	0	3	47	80	41
1400	24.7	42	89	25	11	3	.0	0	0	4	39	78	49
1430	20.8	35	78	35	20	0	.0	0	0	3	45	73	47
1500	21.2	36	85	27	21	1	.0	0	0	7	37	64	62
1530	16.2	28	78	37	28	2	.0	0	0	9	39	58	67
1600	19.0	33	66	48	23	4	.0	0	1	6	44	64	59
1630	13.9	24	72	36	39	2	.0	0	1	9	42	58	63
1700	15.5	27	56	43	45	3	.6	1	1	13	39	58	62
1730	12.1	21	49	54	45	5	.6	1	2	11	40	58	62
1800	9.2	16	55	51	50	2	.6	1	4	17	43	66	43
1830	7.5	13	46	73	38	3	.6	1	6	30	49	48	39
1900	9.3	16	60	69	24	3	.6	1	17	47	37	40	30
1930	10.5	18	69	61	22	2	.6	1	14	65	35	34	23
2000	6.4	11	67	72	22	1	.6	1	12	69	43	26	22
2030	10.4	18	59	73	22	1	1.2	2	10	59	52	33	17
2100	14.5	25	54	71	21	2	1.2	2	15	59	52	34	11
2130	12.1	21	67	62	20	3	1.2	2	12	60	48	31	20
2200	14.5	25	68	55	22	2	.6	1	14	60	52	30	15
2230	14.5	25	59	59	25	4	1.2	2	12	52	59	29	18
2300	15.2	26	56	62	22	5	1.2	2	10	58	54	28	19
2330	15.8	27	62	56	22	4	.6	1	11	59	58	26	16

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: JUN   Year(s):   81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	Wind Speed Categories (Number of occurrences)									
				1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	383	5	5.2	124	173	48	36	2					
60	468	6	5.1	183	193	50	30	10	2				
90	465	6	4.7	141	255	52	16	1					
120	512	7	5.5	113	263	104	31		1				
150	1041	14	7.8	127	350	339	190	28	7				
180	862	12	7.3	141	286	268	144	21	2				
210	1059	15	7.4	158	359	321	193	27	1				
240	856	12	7.1	164	283	268	113	28					
270	501	7	5.7	139	193	134	27	8					
300	339	5	5.2	100	150	73	12	3	1				
330	370	5	6.2	117	120	75	42	14	2				
360	407	6	5.4	156	142	72	24	10	3				

Number of calm occurrences: 341
Number of non-calm occurrences: 7263

Number of occurrences used: 7604   #Calm/#Occ=   4%
Number of cases rejected: 1036

Possible number of occurrences: 8640

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: JUL   Year(s):   81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	89	84	0	4.8	18	0	3.1	12	1	7.7	27	169	154
30	89	101	0	4.9	15	0	3.0	12	1	7.5	23	169	154
100	86	88	0	4.7	18	0	3.0	10	2	7.5	27	169	154
130	79	88	0	4.4	14	0	2.7	10	1	6.9	22	169	154
200	75	77	0	4.4	13	0	2.5	9	2	6.7	19	169	154
230	66	80	0	4.2	13	0	2.6	10	1	6.5	20	169	154
300	58	75	0	4.1	15	0	2.4	9	1	6.1	26	170	155
330	65	68	0	3.8	13	0	2.5	8	1	6.0	20	168	154
400	52	71	0	3.7	12	0	2.2	7	1	5.8	19	168	154
430	48	65	0	3.3	8	0	2.0	8	1	5.4	23	166	152
500	41	61	0	3.2	8	0	1.8	6	0	5.2	18	166	152
530	34	62	0	3.2	8	0	1.7	8	1	5.0	12	165	152
600	33	69	0	3.0	9	0	1.5	6	0	5.0	17	167	153
630	25	73	0	3.2	10	0	1.7	8	0	4.8	13	166	153
700	341	91	0	3.5	12	0	1.7	8	0	5.2	14	168	153
730	297	103	0	3.9	12	0	1.9	8	0	6.0	16	168	153
800	267	88	0	4.1	13	0	1.9	9	1	6.4	19	169	154
830	255	76	0	4.4	15	0	1.9	10	2	7.1	19	169	154
900	249	66	0	4.7	12	0	1.8	10	2	7.8	22	168	154
930	244	59	0	4.9	14	0	1.7	10	3	8.1	20	168	153
1000	241	56	0	4.9	16	0	1.6	10	2	8.8	22	169	155
1030	235	60	0	5.4	15	0	1.6	10	3	9.4	20	165	151
1100	236	54	0	5.6	17	0	1.5	10	3	10.2	23	169	154
1130	233	52	0	6.1	16	0	1.5	10	0	11.0	28	171	156
1200	235	55	0	5.9	14	0	2.1	90	2	11.5	29	169	155
1230	237	62	0	6.2	23	0	2.0	90	3	12.1	26	169	156
1300	236	75	1	6.7	16	0	2.3	90	5	12.8	29	166	153
1330	222	78	0	7.3	19	0	2.5	90	4	13.5	33	166	153
1400	220	79	0	7.2	22	0	2.9	90	3	14.3	45	168	153
1430	217	85	0	7.7	23	0	3.0	90	4	13.9	35	167	154
1500	205	77	0	7.6	25	0	3.2	90	3	14.2	40	168	154
1530	208	85	0	8.3	20	0	3.6	90	3	13.9	28	169	156
1600	204	87	0	8.1	20	0	3.9	90	2	13.7	27	169	156
1630	191	88	0	7.9	21	0	4.4	90	4	13.5	33	168	155
1700	182	85	0	8.1	20	0	4.4	90	3	13.3	34	168	155
1730	174	82	0	7.8	23	0	4.6	90	2	12.8	34	169	155
1800	167	86	0	7.4	22	0	4.6	90	1	12.0	35	169	156
1830	163	84	0	6.7	20	0	4.7	90	2	11.1	33	170	157
1900	155	77	0	5.6	20	0	4.3	90	2	9.6	27	170	157
1930	136	79	0	5.8	16	0	4.0	90	0	8.8	25	170	157
2000	118	72	0	5.5	30	0	4.0	90	0	8.5	41	170	157
2030	117	79	0	5.5	27	0	3.8	90	0	8.4	37	170	157
2100	104	75	0	5.3	22	0	3.8	90	0	8.3	40	166	154
2130	91	79	0	5.3	28	0	3.7	90	1	7.9	30	165	154
2200	96	79	0	5.1	20	0	3.7	90	0	8.3	31	166	155
2230	93	92	0	5.4	21	0	3.7	90	0	8.3	33	167	154
2300	92	89	0	5.1	17	0	3.7	90	1	8.1	30	166	155
2330	96	88	0	5.1	20	0	3.5	90	1	8.0	31	167	155

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC　　　Month: JUL　　　Year(s):　81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	1-3	4-6	7-10	GE11	% CALM	# CALM	1-3	4-6	7-10	11-16	GE17
			Minimum cases						MAXIMUM OCCURENCES				
0	19.5	30	65	41	15	3	.0	0	16	67	39	25	7
30	22.7	35	61	43	14	1	.0	0	15	74	36	21	8
100	22.1	34	64	40	16	0	.0	0	18	63	46	19	8
130	22.1	34	69	40	11	0	.0	0	20	73	40	16	5
200	22.7	35	75	36	8	0	.0	0	17	85	30	20	2
230	20.1	31	78	35	10	0	.0	0	18	83	35	14	4
300	25.8	40	65	42	8	0	.0	0	18	89	36	11	1
330	20.8	32	74	46	2	0	.0	0	16	93	34	9	2
400	21.4	33	84	35	2	0	.0	0	21	96	24	11	2
430	25.0	38	79	34	1	0	.0	0	25	101	23	2	1
500	29.6	45	84	23	0	0	.7	1	27	99	21	3	1
530	30.9	47	82	22	1	0	.0	0	31	91	29	1	0
600	38.6	59	79	15	0	0	1.3	2	26	98	24	2	1
630	34.6	53	79	19	2	0	2.6	4	42	80	23	4	0
700	33.3	51	78	23	1	0	2.0	3	41	67	35	7	0
730	28.8	44	79	26	4	0	1.3	2	26	70	43	12	0
800	29.9	46	73	30	5	0	.0	0	18	79	43	13	1
830	27.9	43	81	25	5	0	.0	0	8	71	58	14	3
900	28.6	44	84	22	4	0	.0	0	2	62	71	14	5
930	32.0	49	80	18	6	0	.0	0	2	51	77	18	5
1000	31.0	48	84	19	4	0	.0	0	3	29	96	23	4
1030	31.8	48	81	18	4	0	.0	0	1	21	83	41	5
1100	35.1	54	83	14	3	0	.0	0	1	12	82	50	9
1130	30.1	47	90	13	6	0	.6	1	1	13	59	71	11
1200	31.0	48	87	13	6	1	.0	0	2	6	58	79	9
1230	31.4	49	93	9	4	1	.0	0	2	4	47	88	14
1300	28.8	44	84	19	4	2	.0	0	0	4	41	90	17
1330	30.1	46	77	17	12	1	.0	0	0	4	33	86	29
1400	27.5	42	71	27	10	3	.0	0	1	5	32	78	36
1430	24.7	38	73	26	15	2	.0	0	0	4	32	81	36
1500	23.4	36	72	29	14	3	.0	0	1	5	38	64	45
1530	20.5	32	64	42	17	1	.0	0	1	6	36	71	41
1600	14.7	23	63	43	25	2	.0	0	2	4	36	77	36
1630	14.8	23	57	43	28	4	.0	0	0	6	40	73	35
1700	17.4	27	47	52	27	2	.0	0	3	9	45	62	35
1730	14.2	22	53	42	35	3	.0	0	2	16	45	57	34
1800	9.6	15	59	50	28	4	.0	0	3	24	50	44	34
1830	8.9	14	54	63	24	2	.0	0	4	32	50	44	26
1900	13.4	21	60	51	24	1	.0	0	9	49	44	34	20
1930	15.9	25	61	45	23	3	.6	1	19	54	36	28	18
2000	16.6	26	60	48	21	2	1.9	3	12	68	35	18	20
2030	15.9	25	68	43	17	4	1.9	3	14	71	29	22	17
2100	16.9	26	65	42	17	4	.7	1	18	60	37	25	12
2130	14.9	23	72	41	17	1	.0	0	13	71	37	20	12
2200	18.1	28	66	43	15	3	.6	1	16	67	38	12	20
2230	18.2	28	66	44	14	2	.7	1	14	65	33	26	14
2300	18.7	29	63	44	15	4	.0	0	15	66	36	25	12
2330	23.2	36	61	41	15	2	.0	0	20	66	32	23	13

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: JUL   Year(s): 81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	567	8	4.5	224	256	50	36	1					
60	658	9	5.3	226	285	80	55	10	2				
90	539	7	4.9	181	257	67	32	2					
120	576	8	5.8	132	278	119	41	6					
150	883	12	7.4	121	304	281	158	18	1				
180	668	9	6.7	137	232	212	74	7	6				
210	697	10	5.8	166	281	200	48	2					
240	684	9	5.6	168	291	193	29	3					
270	608	8	5.2	160	272	157	18	1					
300	442	6	5.0	145	196	81	15	4	1				
330	441	6	5.3	152	173	76	34	6					
360	570	8	5.6	185	236	93	44	9	1	2			

```
Number of calm occurrences:       394
Number of non-calm occurrences: 7333

Number of occurrences used:      7727     #Calm/#Occ=   5%
Number of cases rejected:        1201

Possible number of occurrences: 8928
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WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: AUG   Year(s):   81 82 83 84 85 86

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	75	93	0	4.8	15	0	2.9	10	0	7.6	25	151	146
30	74	87	0	4.7	20	0	2.6	11	2	7.2	22	151	146
100	67	86	0	4.5	15	0	2.7	12	1	6.9	31	151	146
130	68	84	0	4.3	13	0	2.5	10	0	6.6	23	151	146
200	56	85	0	4.1	13	0	2.3	10	0	6.5	24	151	146
230	52	82	0	3.8	11	0	2.2	7	0	5.9	26	150	145
300	43	78	0	4.0	14	0	2.2	9	0	6.1	29	150	145
330	51	70	0	3.7	15	0	2.1	9	0	5.9	20	150	145
400	43	65	0	3.9	14	0	2.2	8	0	5.8	19	149	144
430	48	62	0	3.6	12	0	2.2	9	1	5.5	17	150	144
500	42	61	0	3.4	17	0	1.9	7	0	5.4	25	151	145
530	38	56	0	3.5	15	0	1.9	10	1	5.2	22	150	144
600	34	64	0	3.1	9	0	1.6	7	1	5.0	20	149	143
630	28	74	0	3.1	12	0	1.5	6	0	4.8	14	147	141
700	21	88	0	3.0	10	0	1.5	6	0	5.0	20	147	140
730	287	105	0	3.5	15	0	1.7	9	1	5.4	22	148	142
800	256	83	0	4.0	12	0	1.9	8	0	6.0	22	151	145
830	256	75	0	4.0	12	0	1.6	6	1	6.4	17	151	145
900	253	65	0	3.8	10	0	1.5	7	2	6.8	17	150	144
930	245	59	0	4.3	14	0	1.5	6	2	7.4	15	150	143
1000	241	61	0	4.5	13	0	1.4	6	3	8.0	18	150	144
1030	240	49	0	5.1	14	0	1.3	7	3	8.4	15	148	142
1100	233	51	0	5.1	20	0	1.3	8	4	9.3	17	150	143
1130	234	50	0	6.1	18	0	1.3	8	4	10.1	24	149	144
1200	242	50	0	5.8	22	0	1.3	9	4	10.5	26	151	146
1230	234	56	0	5.5	22	0	1.3	9	5	10.9	22	152	147
1300	231	58	0	6.2	26	0	1.3	8	2	11.5	26	152	147
1330	232	63	0	6.7	24	0	1.5	10	4	12.0	29	153	147
1400	227	69	0	6.9	20	0	1.7	10	6	12.9	32	151	145
1430	217	73	0	7.3	25	0	2.3	12	5	13.4	33	151	145
1500	206	82	0	7.4	24	0	2.6	11	6	13.8	40	154	147
1530	201	82	0	7.4	20	0	2.7	12	5	13.8	32	153	148
1600	204	83	0	7.1	20	0	3.0	10	5	13.0	29	154	149
1630	201	87	1	7.0	22	0	3.1	10	4	12.3	33	155	149
1700	189	81	0	6.6	17	0	3.0	12	2	11.3	29	154	147
1730	187	86	0	6.5	22	0	3.1	10	2	10.7	32	154	148
1800	189	88	0	6.1	22	0	3.5	15	2	10.2	34	155	149
1830	176	94	0	5.5	22	0	3.3	13	1	9.1	32	155	149
1900	148	94	0	5.1	22	0	3.2	12	0	8.8	33	154	148
1930	123	89	0	5.4	22	0	3.0	10	0	8.6	32	153	147
2000	112	81	0	5.0	23	0	3.0	12	0	8.6	45	153	147
2030	105	73	0	5.3	22	0	3.0	12	0	8.0	32	153	147
2100	94	68	0	5.3	22	0	3.2	12	1	8.2	37	153	147
2130	93	80	0	4.9	18	0	3.0	11	2	8.0	30	153	147
2200	91	78	0	4.8	17	0	2.8	11	2	7.7	25	153	147
2230	84	86	0	5.3	16	0	2.8	10	1	7.9	23	152	146
2300	84	95	0	4.9	18	0	2.9	11	2	7.6	22	152	146
2330	72	90	0	5.2	17	0	3.1	10	1	7.6	22	152	146

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: AUG   Year(s): 81 82 83 84 85 86

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	# CALM	MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	19.9	29	66	38	13	0	.7	1	13	69	32	22	9
30	26.7	39	63	34	9	1	.0	0	18	68	28	25	7
100	19.2	28	79	26	11	2	.0	0	18	79	27	16	6
130	22.6	33	73	30	10	0	2.7	4	13	80	27	16	6
200	26.0	38	71	28	9	0	.7	1	18	75	35	14	3
230	21.4	31	80	32	2	0	.7	1	19	84	32	8	1
300	24.1	35	72	32	6	0	1.4	2	18	87	24	11	3
330	26.9	39	76	24	6	0	.7	1	22	85	26	7	4
400	20.8	30	79	31	4	0	.7	1	19	89	26	5	4
430	20.1	29	79	33	3	0	.0	0	24	92	21	5	2
500	23.4	34	80	30	1	0	.7	1	23	94	19	5	3
530	27.1	39	75	29	1	0	.0	0	32	91	16	2	3
600	34.3	49	75	18	1	0	.0	0	31	93	15	2	2
630	35.5	50	72	19	0	0	1.4	2	38	77	20	4	0
700	35.0	49	72	19	0	0	.7	1	43	61	29	5	1
730	37.3	53	63	25	1	0	.0	0	37	64	33	7	1
800	31.7	46	72	25	2	0	.7	1	26	60	47	10	1
830	32.4	47	76	22	0	0	.0	0	13	64	62	4	2
900	31.3	45	76	22	1	0	.0	0	9	63	66	5	1
930	32.2	46	76	21	0	0	.0	0	6	53	67	17	0
1000	31.9	46	80	18	0	0	.0	0	4	43	79	17	1
1030	31.0	44	86	11	1	0	.0	0	5	34	74	29	0
1100	28.7	41	91	10	1	0	.0	0	0	17	90	34	2
1130	29.9	43	89	11	1	0	.0	0	0	11	81	49	3
1200	31.5	46	84	15	1	0	.0	0	0	11	75	54	6
1230	30.6	45	91	10	1	0	.0	0	0	7	75	60	5
1300	29.9	44	91	10	2	0	.0	0	1	6	67	60	13
1330	26.5	39	92	12	4	0	.0	0	0	6	52	74	15
1400	26.2	38	84	18	5	0	.0	0	0	2	43	80	20
1430	24.1	35	76	25	6	3	.0	0	0	1	41	73	30
1500	20.4	30	77	26	13	1	.0	0	0	3	39	73	32
1530	21.6	32	73	23	18	2	.0	0	0	5	45	63	35
1600	14.1	21	73	37	18	0	.0	0	0	8	47	61	33
1630	16.1	24	64	45	16	0	.0	0	0	10	48	69	22
1700	18.4	27	59	47	13	1	.0	0	1	18	58	50	20
1730	12.8	19	67	49	13	0	.0	0	5	22	58	44	19
1800	14.8	22	57	51	17	2	.0	0	4	35	54	40	16
1830	11.4	17	73	42	14	3	.0	0	18	43	38	37	13
1900	17.6	26	61	51	8	2	1.4	2	26	43	30	30	17
1930	20.4	30	62	38	17	0	2.0	3	25	52	24	26	17
2000	19.7	29	60	47	10	1	1.4	2	21	57	26	24	17
2030	17.7	26	66	41	11	3	1.4	2	17	61	35	20	12
2100	16.3	24	65	42	15	1	.0	0	12	67	40	13	15
2130	15.0	22	69	43	12	1	.0	0	15	72	27	18	15
2200	17.0	25	73	36	12	1	.0	0	14	69	33	20	11
2230	19.2	28	69	38	11	0	.0	0	13	69	23	34	7
2300	19.9	29	58	49	9	1	.0	0	9	70	33	31	3
2330	16.4	24	63	47	12	0	.0	0	14	63	41	20	8

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: AUG   Year(s): 81 82 83 84 85 86

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	Wind Speed Categories (Number of occurrences)									
				1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	532	8	4.8	199	247	46	31	7	2				
60	618	9	4.8	235	277	58	38	7	3				
90	539	8	4.5	175	293	53	16	2					
120	486	7	5.2	143	235	79	26	2	1				
150	650	10	6.4	129	258	198	59	5	1				
180	612	9	6.0	146	228	183	54	1					
210	660	10	5.5	166	290	177	25	2					
240	720	11	5.3	184	326	191	17	2					
270	539	8	5.1	154	227	150	7	1					
300	425	6	4.7	147	186	81	9	1	1				
330	435	6	5.3	141	185	83	16	5	5				
360	517	8	5.6	158	211	91	44	11	2				

Number of calm occurrences: 400
Number of non-calm occurrences: 6733

Number of occurrences used: 7133   #Calm/#Occ=   6%
Number of cases rejected: 1795

Possible number of occurrences: 8928

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: SEP   Year(s): 80 81 82 83 84 85

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	94	89	0	4.5	20	0	2.8	10	0	6.9	21	170	170
30	85	96	0	4.6	17	0	2.7	9	0	6.7	20	171	171
100	77	89	0	4.4	16	0	2.6	8	0	6.7	26	171	171
130	75	83	0	4.2	13	0	2.5	10	0	6.3	26	170	170
200	70	78	0	4.0	16	0	2.3	9	0	6.2	20	171	171
230	69	80	0	4.2	17	0	2.4	9	0	6.1	19	171	171
300	54	80	0	4.1	17	0	2.2	10	0	6.1	31	171	171
330	54	75	0	3.9	18	0	2.3	13	0	5.8	27	171	171
400	55	74	0	3.8	15	0	2.2	11	0	5.8	22	171	171
430	60	75	0	4.0	20	0	2.2	10	0	5.8	21	171	171
500	55	78	0	3.7	12	0	2.2	9	0	5.7	22	171	171
530	55	71	0	3.7	16	0	2.1	9	1	5.4	20	171	171
600	49	64	0	3.5	12	0	2.0	9	0	5.2	21	170	170
630	51	66	0	3.1	12	0	1.8	8	0	5.1	15	171	171
700	44	80	0	3.1	14	0	1.6	8	0	4.8	17	171	171
730	36	111	0	3.1	12	0	1.7	8	0	5.1	16	170	170
800	252	108	0	3.5	14	0	1.7	10	0	5.5	16	171	170
830	243	91	0	4.0	14	0	1.9	10	0	6.3	19	172	172
900	240	72	0	4.0	15	0	1.9	10	0	6.8	20	170	170
930	243	73	0	4.6	19	0	1.9	10	0	7.4	22	171	171
1000	237	65	0	4.8	15	0	1.9	10	1	8.0	25	171	170
1030	235	65	0	5.2	17	0	1.7	10	1	8.7	28	169	168
1100	236	60	0	5.0	23	0	1.9	10	1	9.3	31	169	168
1130	237	53	0	5.1	18	0	1.9	13	1	9.8	31	170	170
1200	231	57	0	5.6	20	0	1.8	11	1	10.3	31	170	170
1230	225	61	0	6.0	20	0	2.0	13	2	11.0	33	170	170
1300	223	61	0	6.5	18	0	2.1	12	2	11.4	34	170	170
1330	226	60	0	6.3	20	0	2.2	13	1	11.5	30	170	170
1400	222	74	0	6.5	24	0	2.3	13	2	11.7	37	170	169
1430	221	70	0	6.5	20	0	2.3	11	1	11.9	33	171	171
1500	212	77	1	6.6	24	0	2.5	14	2	12.0	33	171	171
1530	207	74	0	6.9	20	0	2.9	14	3	12.2	35	171	171
1600	192	75	0	6.9	20	0	3.1	12	3	11.7	32	170	170
1630	201	74	0	6.5	22	0	3.2	12	1	10.9	32	170	170
1700	186	80	0	6.6	28	0	3.4	12	1	10.5	40	170	170
1730	179	78	0	6.0	20	0	3.6	12	1	9.7	38	170	170
1800	166	74	0	5.0	18	0	3.2	10	0	8.2	28	171	171
1830	150	73	0	4.8	22	0	3.0	11	0	7.3	27	171	171
1900	137	70	0	4.7	18	0	3.0	10	0	7.1	29	171	171
1930	127	76	0	4.9	17	0	2.9	10	0	7.2	30	171	171
2000	122	76	0	5.0	20	0	3.1	10	0	7.3	26	171	171
2030	111	77	0	5.1	20	0	3.3	12	0	7.4	35	172	172
2100	106	83	0	4.9	18	0	3.1	12	0	7.5	37	172	172
2130	107	82	0	4.7	15	0	2.9	10	0	7.2	24	172	172
2200	125	87	0	4.6	14	0	2.8	9	0	6.9	19	173	173
2230	137	95	0	4.5	19	0	2.5	10	0	7.0	30	173	173
2300	117	94	0	4.7	20	0	2.7	12	0	7.1	26	173	173
2330	108	91	0	4.8	22	0	2.7	10	0	7.2	24	172	172

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: SEP   Year(s):   80 81 82 83 84 85

Minimum-MAXIMUM Winds during each 30 minute period

| 30min | % | # Minimum cases | | | | % | # MAXIMUM OCCURENCES | | | | |
PRIOR	Calm	Calm	1-3	4-6	7-10	GE11	CALM	CALM	1-3	4-6	7-10	11-16	GE17
0	17.6	30	82	47	11	0	.6	1	11	86	53	12	7
30	18.1	31	82	49	9	0	1.2	2	18	85	49	14	3
100	17.0	29	86	48	8	0	1.2	2	17	89	43	17	3
130	18.2	31	88	45	6	0	1.8	3	11	102	39	13	2
200	17.0	29	102	36	4	0	1.2	2	16	99	39	12	3
230	17.5	30	98	39	4	0	2.3	4	17	98	38	12	2
300	18.1	31	96	40	4	0	2.3	4	20	97	38	7	5
330	17.0	29	102	35	4	1	1.2	2	20	112	25	9	3
400	15.8	27	109	31	2	2	1.8	3	24	102	31	7	4
430	18.7	32	97	36	6	0	.6	1	31	92	37	7	3
500	18.1	31	99	38	3	0	.6	1	26	105	28	7	4
530	18.7	32	105	31	3	0	.0	0	30	109	22	8	2
600	15.9	27	111	29	3	0	1.8	3	22	120	18	5	2
630	18.7	32	113	24	2	0	1.8	3	30	107	21	10	0
700	28.7	49	100	20	2	0	3.5	6	48	85	24	7	1
730	25.9	44	101	22	3	0	4.7	8	44	78	30	10	0
800	30.6	52	87	27	4	0	1.2	2	41	77	38	12	0
830	23.3	40	101	25	6	0	.6	1	27	78	51	12	3
900	24.1	41	98	23	8	0	1.8	3	18	76	54	16	3
930	21.1	36	102	26	7	0	1.2	2	11	67	66	22	3
1000	21.2	36	104	22	8	0	.0	0	10	55	76	24	5
1030	17.3	29	117	16	6	0	.0	0	5	36	91	33	3
1100	14.3	24	116	22	6	0	.0	0	3	27	87	46	5
1130	15.9	27	116	23	3	1	.0	0	5	20	85	54	6
1200	15.9	27	121	17	4	1	.0	0	3	18	78	63	8
1230	12.9	22	117	26	4	1	.0	0	3	18	68	64	17
1300	12.9	22	118	22	7	1	.0	0	2	14	59	76	19
1330	15.3	26	107	29	7	1	.0	0	3	15	61	68	23
1400	19.5	33	95	31	8	2	.0	0	4	15	61	63	26
1430	14.6	25	108	27	10	1	.0	0	5	15	57	68	26
1500	14.0	24	104	33	8	2	.0	0	4	18	66	46	37
1530	9.4	16	100	40	14	1	.0	0	4	17	60	56	34
1600	10.6	18	90	42	18	2	.0	0	1	24	60	61	24
1630	11.8	20	76	56	17	1	.0	0	3	29	62	54	22
1700	10.6	18	77	55	19	1	.0	0	8	31	60	51	20
1730	9.4	16	68	63	22	1	.0	0	12	52	44	43	19
1800	11.7	20	74	63	14	0	1.2	2	20	59	47	30	13
1830	11.7	20	85	52	13	1	1.2	2	30	72	35	16	16
1900	15.2	26	79	52	14	0	.6	1	33	78	30	17	12
1930	17.5	30	74	56	11	0	1.8	3	18	84	38	17	11
2000	12.3	21	83	55	12	0	.6	1	17	82	44	16	11
2030	11.6	20	78	57	16	1	1.2	2	14	83	42	20	11
2100	13.4	23	75	63	10	1	1.2	2	12	78	52	22	6
2130	11.6	20	85	57	10	0	1.2	2	12	81	53	19	5
2200	18.5	32	71	61	9	0	1.2	2	19	81	49	18	4
2230	22.5	39	77	49	8	0	.6	1	13	92	45	12	10
2300	16.8	29	81	53	9	1	1.7	3	20	79	47	13	11
2330	19.8	34	81	48	9	0	1.2	2	16	82	47	14	11

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: SEP   Year(s):   80 81 82 83 84 85

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	554	7	4.0	255	254	32	11	2					
60	653	9	4.4	270	304	50	27	2					
90	635	8	4.2	217	372	35	10	1					
120	570	8	4.9	158	319	62	29	1	1				
150	913	12	6.5	169	353	296	84	11					
180	800	11	6.3	176	305	225	81	10	2	1			
210	792	11	5.7	221	318	190	50	11	2				
240	682	9	4.9	236	284	138	22	1	1				
270	520	7	4.7	186	220	102	11	1					
300	410	5	4.6	163	156	76	14	1					
330	448	6	5.2	160	177	76	30	5					
360	526	7	4.5	235	198	63	26	4					

Number of calm occurrences: 387
Number of non-calm occurrences: 7503

Number of occurrences used: 7890   #Calm/#Occ=   5%
Number of cases rejected: 750

Possible number of occurrences: 8640

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: OCT   Year(s): 80 81 82 83 84 85

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	68	80	0	4.2	18	0	2.5	11	0	6.1	26	180	174
30	74	74	0	4.0	19	0	2.4	12	0	6.1	28	180	175
100	70	69	0	3.9	18	0	2.3	11	0	5.6	27	179	174
130	67	67	0	4.1	20	0	2.3	11	0	6.0	28	179	174
200	67	68	0	4.0	16	0	2.3	11	0	5.8	25	177	172
230	65	70	0	3.9	14	0	2.3	13	1	5.9	29	177	172
300	63	66	0	3.9	17	0	2.2	12	0	5.7	26	177	172
330	60	72	0	3.9	17	0	2.1	11	0	5.5	28	177	172
400	63	68	0	3.8	17	0	2.2	10	0	5.5	25	177	172
430	59	69	0	3.7	18	0	2.2	10	0	5.6	25	177	172
500	59	67	0	3.6	20	0	2.0	12	0	5.4	27	177	172
530	63	72	0	3.5	18	0	1.9	10	1	5.3	25	177	172
600	65	66	0	3.2	11	0	1.9	10	0	5.1	22	177	172
630	68	75	0	3.2	16	0	1.7	9	0	5.0	21	178	173
700	73	77	0	2.7	13	0	1.5	10	0	4.7	23	177	171
730	102	105	0	3.1	14	0	1.4	9	0	4.7	19	178	171
800	155	99	0	3.7	13	0	1.8	8	0	5.3	28	180	174
830	187	82	0	4.1	14	0	2.0	10	0	6.3	23	180	174
900	204	76	0	4.8	24	0	2.3	10	0	7.2	25	178	171
930	212	74	0	5.4	21	0	2.6	11	2	8.0	28	179	173
1000	224	68	0	5.6	24	0	2.7	12	1	8.7	30	181	175
1030	220	64	0	5.9	24	0	2.7	13	2	9.1	30	180	174
1100	221	63	0	6.0	25	0	2.6	12	2	9.8	31	180	174
1130	222	58	0	6.2	19	0	2.6	13	0	10.4	31	177	171
1200	226	62	0	6.3	22	0	2.5	14	2	10.5	34	179	173
1230	223	57	0	6.2	29	0	2.4	13	1	10.6	37	179	173
1300	224	61	0	6.2	20	0	2.5	14	2	11.1	35	179	173
1330	224	61	0	6.3	20	0	2.5	14	1	11.1	35	179	173
1400	219	58	0	6.5	26	0	2.5	11	0	11.1	33	178	172
1430	221	60	0	6.5	27	0	2.5	12	1	10.9	33	177	171
1500	217	62	0	6.4	24	0	2.7	14	3	10.8	32	179	172
1530	217	63	0	6.6	20	0	3.0	12	3	10.6	33	181	175
1600	214	67	0	6.2	20	0	3.3	14	2	10.0	34	181	175
1630	208	67	0	5.8	21	0	3.3	14	1	9.2	31	181	175
1700	195	75	0	5.3	25	0	3.3	16	1	8.6	34	181	175
1730	178	77	0	4.4	18	0	2.9	13	0	7.0	32	181	175
1800	149	79	0	4.3	17	0	2.7	12	0	6.1	25	181	175
1830	135	80	0	4.4	25	0	2.7	10	0	6.3	27	181	175
1900	109	72	0	4.4	17	0	2.8	15	0	6.5	40	181	175
1930	97	71	0	4.8	20	0	3.0	14	0	6.6	30	181	175
2000	91	68	0	4.7	26	0	3.2	13	1	6.7	34	181	175
2030	88	69	0	4.7	22	0	3.1	13	0	6.8	34	181	175
2100	88	70	0	4.6	16	0	3.0	12	1	6.7	28	181	175
2130	93	74	0	4.7	20	0	3.1	10	1	6.4	27	181	175
2200	89	69	0	4.5	15	0	2.9	12	1	6.5	23	180	175
2230	94	75	0	4.6	20	0	2.7	10	0	6.6	30	180	174
2300	87	76	0	4.4	18	0	2.7	11	0	6.2	27	180	174
2330	86	80	0	4.3	16	0	2.4	12	0	6.2	25	180	174

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: OCT   Year(s): 80 81 82 83 84 85

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	1-3	4-6	7-10	GE11	% CALM	# CALM	1-3	4-6	7-10	11-16	GE17
0	28.2	49	72	44	8	1	.6	1	31	89	34	14	5
30	26.3	46	83	40	4	2	.6	1	30	93	36	10	5
100	21.8	38	88	40	6	2	1.1	2	42	86	33	7	4
130	24.1	42	89	36	5	2	1.1	2	30	97	29	11	5
200	29.1	50	74	39	8	1	1.2	2	39	86	28	12	5
230	27.3	47	83	36	5	1	.0	0	32	97	29	10	4
300	26.7	46	88	33	4	1	1.2	2	29	96	34	9	2
330	26.2	45	91	30	5	1	.6	1	37	96	26	8	4
400	27.9	48	84	33	7	0	.6	1	35	100	24	8	4
430	25.0	43	93	30	6	0	1.2	2	27	110	22	8	3
500	30.8	53	88	26	4	1	1.2	2	37	97	26	7	3
530	33.1	57	78	31	6	0	.0	0	44	99	17	7	5
600	35.5	61	80	27	4	0	1.7	3	46	88	26	6	3
630	38.2	66	80	22	5	0	3.5	6	45	89	21	9	3
700	42.1	72	77	17	5	0	4.7	8	56	80	16	8	3
730	45.0	77	71	20	3	0	4.1	7	70	58	22	12	2
800	43.7	76	59	31	8	0	3.4	6	61	59	30	14	4
830	43.7	76	55	27	16	0·	2.3	4	43	71	24	28	4
900	38.0	65	59	29	18	0	1.8	3	32	62	37	28	9
930	31.8	55	66	33	17	2	.0	0	19	70	42	28	14
1000	29.1	51	72	33	14	5	.0	0	14	61	51	31	18
1030	33.3	58	57	32	26	1	.0	0	15	54	54	31	20
1100	33.3	58	61	32	21	2	.0	0	5	50	61	36	22
1130	25.7	44	79	28	18	2	.6	1	4	41	59	38	28
1200	30.1	52	70	33	16	2	.0	0	7	33	67	41	25
1230	33.5	58	68	32	13	2	.0	0	5	34	65	47	22
1300	29.5	51	81	21	18	2	.0	0	4	27	66	48	28
1330	34.7	60	61	34	16	2	.0	0	1	41	58	44	29
1400	32.0	55	66	33	16	2	.6	1	3	37	56	46	29
1430	31.6	54	64	35	16	2	.0	0	3	37	56	50	25
1500	28.5	49	71	28	21	3	.0	0	2	41	52	49	28
1530	27.4	48	67	33	25	2	.0	0	3	47	53	46	26
1600	21.1	37	62	51	22	3	.0	0	8	51	61	35	20
1630	17.1	30	69	53	21	2	.0	0	10	60	55	31	19
1700	15.4	27	72	59	14	3	.0	0	26	48	54	30	17
1730	17.7	31	84	46	12	2	1.7	3	41	63	36	22	10
1800	21.7	38	80	45	11	1	1.7	3	48	70	27	18	9
1830	21.1	37	71	57	10	0	3.4	6	37	79	25	20	8
1900	19.4	34	78	56	6	1	2.3	4	34	82	31	17	7
1930	16.6	29	75	61	9	1	.6	1	28	87	37	15	7
2000	13.7	24	74	68	8	1	.0	0	19	99	39	12	6
2030	13.1	23	88	56	7	1	.6	1	17	94	42	13	8
2100	13.7	24	93	46	9	3	.0	0	21	95	38	12	9
2130	12.0	21	84	59	11	0	.0	0	16	112	27	15	5
2200	14.9	26	85	58	3	3	.0	0	17	98	39	15	6
2230	17.2	30	89	47	8	0	.6	1	16	101	35	13	8
2300	20.1	35	86	45	6	2	1.1	2	19	102	35	11	5
2330	25.9	45	78	44	6	1	1.1	2	25	91	40	12	4

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: OCT   Year(s): 80 81 82 83 84 85

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	582	8	3.9	300	239	25	11	7					
60	797	10	3.7	379	393	11	8	5	1				
90	728	9	3.9	319	374	29	5		1				
120	657	9	4.6	195	380	63	19						
150	953	12	6.0	210	384	278	79	2					
180	856	11	6.5	199	283	262	101	11					
210	797	10	6.1	240	269	186	79	14	8	1			
240	554	7	5.5	205	184	111	39	12	3				
270	452	6	4.4	201	170	62	18	1					
300	316	4	4.3	149	105	51	10	1					
330	488	6	6.5	156	117	125	77	13					
360	499	6	5.1	228	133	84	52	2					

Number of calm occurrences: 656
Number of non-calm occurrences: 7679

Number of occurrences used: 8335   #Calm/#Occ=   8%
Number of cases rejected: 593

Possible number of occurrences: 8928

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: NOV   Year(s): 80 81 82 83 84 85

MST Time	Resultant Dir (mag) Mean	SD	Speed (kts) Min	Mean	Max	Previous 30 minutes Minimum Min	Mean	Max	Maximum Min	Mean	Max	Number of cases used Time	30min
0	70	68	0	4.2	25	0	2.5	10	0	6.3	31	173	173
30	69	72	0	4.3	15	0	2.4	12	2	6.3	30	172	172
100	67	69	0	4.3	23	0	2.5	10	0	6.1	30	173	173
130	57	71	0	4.4	20	0	2.6	11	1	6.3	33	173	173
200	64	72	0	4.3	16	0	2.6	10	0	6.5	25	172	172
230	60	69	0	4.3	14	0	2.4	9	0	6.2	19	172	172
300	62	65	0	4.2	20	0	2.3	9	0	6.2	23	172	172
330	68	66	0	4.2	14	0	2.4	8	0	6.2	23	172	172
400	68	68	0	4.2	16	0	2.4	9	0	6.0	22	172	172
430	72	65	0	4.0	15	0	2.4	10	0	6.1	24	171	171
500	72	73	0	4.1	18	0	2.3	11	0	6.1	24	171	171
530	71	72	0	3.9	15	0	2.2	10	0	6.0	28	171	171
600	71	76	0	4.1	17	0	2.2	9	0	6.0	21	171	171
630	76	72	0	4.1	13	0	2.3	10	0	6.2	27	171	171
700	79	68	0	3.7	13	0	2.1	10	0	5.9	20	170	170
730	94	78	0	3.7	15	0	2.1	9	0	5.7	20	170	170
800	118	87	0	4.1	18	0	2.1	10	0	5.9	33	169	169
830	152	76	0	4.4	18	0	2.3	12	0	6.4	26	167	167
900	176	75	0	4.9	20	0	2.4	11	0	7.1	25	171	170
930	196	73	0	5.3	18	0	2.7	13	0	7.9	27	169	168
1000	207	68	0	5.8	20	0	2.8	12	1	8.6	28	170	169
1030	212	72	0	6.2	18	0	2.8	12	3	9.1	26	171	170
1100	219	66	0	6.1	20	0	3.0	13	1	9.8	30	172	172
1130	220	62	0	6.3	24	0	3.0	13	0	10.0	32	173	173
1200	223	60	0	6.3	26	0	3.0	14	2	10.4	35	174	174
1230	217	61	0	6.3	24	0	2.8	14	3	10.2	32	173	172
1300	226	62	0	6.0	20	0	2.6	12	3	10.3	32	173	173
1330	221	58	0	6.4	20	0	2.7	14	3	10.3	37	171	171
1400	223	60	0	6.3	20	0	2.8	13	0	10.5	34	172	172
1430	220	66	0	6.2	26	0	2.8	16	0	10.4	44	171	171
1500	220	67	0	6.1	20	0	2.9	14	0	10.0	39	172	172
1530	213	66	0	6.0	20	0	3.1	13	0	9.5	37	171	171
1600	207	67	0	5.5	18	0	3.3	10	2	8.8	27	173	173
1630	203	67	0	5.0	20	0	3.1	10	0	8.0	26	173	173
1700	186	76	0	4.4	20	0	2.8	11	0	6.9	29	173	173
1730	155	85	0	4.5	20	0	2.9	10	0	6.5	31	173	173
1800	130	83	0	4.5	20	0	2.9	13	0	6.6	33	173	173
1830	107	72	0	4.8	14	0	2.9	9	0	6.6	25	173	173
1900	92	71	0	4.9	16	0	3.1	10	0	7.1	25	174	174
1930	87	67	0	5.2	22	0	3.2	11	1	7.4	29	174	174
2000	85	74	0	5.1	20	0	3.3	12	0	7.3	30	174	174
2030	85	73	0	4.7	19	0	3.2	13	0	7.1	34	174	174
2100	83	73	0	4.8	23	0	3.0	12	0	6.7	28	174	174
2130	79	75	0	4.9	19	0	3.1	12	0	6.9	28	174	174
2200	80	69	0	4.5	22	0	3.1	11	0	6.7	35	174	174
2230	81	69	0	4.5	20	0	2.8	10	1	6.5	21	173	173
2300	79	66	0	4.5	20	0	2.7	11	0	6.4	25	173	173
2330	74	72	0	4.5	20	0	2.8	10	1	6.6	27	172	172

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: NOV   Year(s): 80 81 82 83 84 85

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	# CALM	1-3	4-6	7-10	11-16	GE17
0	21.4	37	81	48	7	0	.6	1	14	103	45	6	4
30	21.5	37	91	41	2	1	.0	0	14	110	34	10	4
100	20.8	36	83	48	6	0	1.2	2	22	94	44	6	5
130	20.8	36	84	43	9	1	.0	0	26	94	38	9	6
200	22.1	38	80	47	7	0	.6	1	21	96	38	9	7
230	22.7	39	84	45	4	0	1.7	3	25	85	44	11	4
300	26.7	46	77	41	8	0	.6	1	26	88	43	10	4
330	22.1	38	86	41	7	0	.6	1	21	94	42	10	4
400	24.4	42	83	40	7	0	.6	1	26	90	39	12	4
430	24.6	42	85	37	7	0	1.8	3	26	91	35	10	6
500	26.9	46	81	38	5	1	2.9	5	28	85	35	14	4
530	26.9	46	81	40	4	0	1.8	3	25	92	38	8	5
600	27.5	47	78	42	4	0	1.2	2	32	85	35	14	3
630	25.7	44	83	37	7	0	1.2	2	34	81	36	14	4
700	35.3	60	66	33	11	0	2.4	4	38	77	32	15	4
730	34.7	59	72	28	11	0	2.9	5	46	70	29	17	3
800	37.3	63	62	34	10	0	2.4	4	56	51	32	21	5
830	34.7	58	65	27	16	1	3.0	5	48	49	37	18	10
900	31.8	54	70	32	12	2	2.9	5	38	55	36	22	14
930	29.8	50	65	30	21	2	.6	1	31	56	37	27	16
1000	27.2	46	68	29	23	3	.0	0	26	61	32	31	19
1030	27.1	46	70	30	23	1	.0	0	15	56	43	38	18
1100	25.0	43	66	38	23	2	.0	0	10	55	45	35	27
1130	24.3	42	71	26	32	2	.6	1	7	42	67	27	29
1200	24.7	43	77	27	20	7	.0	0	3	41	72	32	26
1230	27.3	47	69	34	15	7	.0	0	3	44	71	26	28
1300	28.9	50	73	29	18	3	.0	0	1	47	70	30	25
1330	29.2	50	69	30	19	3	.0	0	2	43	66	32	28
1400	30.2	52	63	31	22	4	.6	1	2	38	71	35	25
1430	30.4	52	62	35	17	5	.6	1	5	35	73	29	28
1500	25.0	43	69	38	19	3	.6	1	5	44	65	31	26
1530	26.9	46	59	39	26	1	.6	1	9	49	63	28	21
1600	20.8	36	65	43	29	0	.0	0	13	68	44	25	23
1630	17.3	30	82	39	22	0	1.2	2	25	68	38	21	19
1700	24.3	42	71	44	15	1	4.0	7	39	68	25	21	13
1730	21.4	37	70	51	15	0	1.7	3	49	66	31	11	13
1800	16.8	29	78	52	12	2	1.7	3	46	59	39	17	9
1830	19.1	33	72	53	15	0	1.7	3	29	81	39	13	8
1900	17.8	31	74	58	11	0	1.7	3	16	81	52	10	12
1930	14.4	25	77	62	9	1	.0	0	13	80	57	17	7
2000	9.8	17	73	75	7	2	.6	1	10	84	57	15	7
2030	11.5	20	70	78	4	2	.6	1	11	95	43	18	6
2100	15.5	27	76	62	7	2	1.1	2	14	90	50	13	5
2130	16.1	28	78	59	7	2	1.1	2	15	85	52	14	6
2200	17.8	31	68	64	10	1	1.1	2	16	95	43	10	8
2230	20.2	35	69	60	9	0	.0	0	23	95	35	14	6
2300	20.8	36	77	52	7	1	.6	1	24	91	42	7	8
2330	18.0	31	85	49	7	0	.0	0	23	92	40	11	6

B11-2

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: NOV   Year(s):   80 81 82 83 84 85

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	Wind Speed Categories (Number of occurrences)									
				1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	659	9	4.6	218	365	49	24	2	1				
60	898	12	4.2	316	525	36	19	2					
90	733	10	3.9	275	419	38	1						
120	711	9	5.0	172	397	127	11	4					
150	895	12	6.5	164	354	272	90	15					
180	765	10	6.2	197	288	185	77	17	1				
210	774	10	6.5	219	249	177	106	21	2				
240	531	7	5.4	200	178	97	48	6	2				
270	361	5	4.8	166	121	39	27	8					
300	272	4	4.2	127	106	31	6	2					
330	401	5	6.7	116	104	116	49	14	2				
360	530	7	5.2	205	182	100	33	9	1				

Number of calm occurrences: 593
Number of non-calm occurrences: 7530

Number of occurrences used: 8123   #Calm/#Occ=   7%
Number of cases rejected: 517

Possible number of occurrences: 8640

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: DEC   Year(s): 80 81 82 83 84 85

| | Resultant | | | | | Previous 30 minutes | | | | | | Number of | |
| MST | Dir (mag) | | Speed (kts) | | | Minimum | | | Maximum | | | cases used | |
Time	Mean	SD	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Time	30min
0	60	82	0	3.5	18	0	1.8	11	0	5.7	32	169	169
30	59	77	0	3.8	18	0	2.0	10	0	5.9	27	170	170
100	58	74	0	3.7	18	0	2.1	11	0	6.0	32	170	170
130	61	75	0	3.5	17	0	2.1	11	0	5.7	26	170	170
200	57	78	0	3.7	17	0	1.9	10	0	5.7	25	169	169
230	56	68	0	3.8	16	0	1.9	12	0	5.6	29	169	169
300	59	65	0	3.8	18	0	2.0	10	0	6.0	25	169	168
330	72	78	0	3.5	20	0	2.0	13	0	5.7	32	169	169
400	62	74	0	3.2	15	0	1.8	10	0	5.5	25	169	169
430	56	74	0	3.5	13	0	1.7	9	0	5.5	23	169	169
500	63	69	0	3.4	17	0	1.9	11	0	5.7	23	169	169
530	61	71	0	3.5	13	0	1.8	10	0	5.5	25	169	169
600	52	77	0	3.4	13	0	1.8	9	0	5.4	19	169	169
630	59	78	0	3.6	17	0	1.9	9	0	5.5	21	169	168
700	70	76	0	3.5	12	0	1.8	9	0	5.4	23	168	168
730	68	71	0	3.4	16	0	1.7	7	0	5.3	25	167	167
800	89	83	0	3.0	17	0	1.6	10	0	5.3	25	167	167
830	108	99	0	3.6	17	0	1.7	9	0	5.6	21	165	164
900	141	110	0	3.9	15	0	2.1	9	0	6.2	23	166	164
930	184	97	0	4.2	17	0	2.1	9	0	6.6	23	170	170
1000	205	85	0	4.4	17	0	2.2	11	0	7.3	27	172	172
1030	213	83	0	4.8	18	0	2.3	11	1	7.6	26	172	172
1100	219	83	0	4.8	17	0	2.2	12	1	7.8	28	171	171
1130	231	73	0	5.2	20	0	2.2	13	1	8.4	36	171	170
1200	242	70	0	5.1	20	0	2.2	14	2	8.6	30	173	173
1230	233	66	0	5.6	23	0	2.2	13	2	8.7	30	174	174
1300	234	68	0	5.1	22	0	2.1	13	2	8.8	32	172	172
1330	236	67	0	5.2	20	0	2.4	14	2	8.8	32	173	173
1400	233	66	0	5.6	26	0	2.2	13	2	9.0	36	174	174
1430	236	59	0	5.4	24	0	2.6	16	2	9.1	42	173	173
1500	235	62	0	5.0	20	0	2.5	13	2	8.5	41	174	174
1530	229	67	0	4.9	18	0	2.5	11	1	8.0	28	174	173
1600	236	73	0	4.9	36	0	2.6	11	1	7.7	39	175	175
1630	228	82	0	4.2	18	0	2.4	10	1	7.1	35	175	175
1700	215	103	0	3.4	20	0	2.1	11	0	5.8	28	175	175
1730	169	155	0	3.6	17	0	2.1	10	0	5.3	31	174	174
1800	58	95	0	3.7	13	0	2.2	10	0	5.7	25	174	174
1830	55	82	0	4.1	15	0	2.4	10	0	5.8	21	174	174
1900	53	69	0	4.3	15	0	2.7	9	0	6.1	20	174	174
1930	57	70	0	4.3	14	0	2.9	10	0	6.2	19	173	173
2000	52	68	0	4.5	15	0	2.9	13	0	6.4	23	173	173
2030	54	64	0	4.5	15	0	2.8	13	0	6.3	25	173	173
2100	57	65	0	4.3	16	0	2.7	10	0	6.2	28	173	173
2130	56	69	0	4.3	16	0	2.5	11	0	6.1	24	172	172
2200	64	68	0	3.9	17	0	2.2	10	0	5.9	20	171	171
2230	60	68	0	3.9	13	0	2.3	8	0	6.0	21	171	171
2300	57	70	0	3.6	13	0	2.1	7	0	5.5	23	170	170
2330	60	77	0	3.5	13	0	1.9	10	0	5.5	28	170	170

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: DEC   Year(s):   80 81 82 83 84 85

Minimum-MAXIMUM Winds during each 30 minute period

30min PRIOR	% Calm	# Calm	Minimum cases 1-3	4-6	7-10	GE11	% CALM	CALM	# MAXIMUM OCCURENCES 1-3	4-6	7-10	11-16	GE17
0	39.1	66	70	30	2	1	3.0	5	35	89	29	5	6
30	31.8	54	83	28	5	0	1.2	2	33	92	29	8	6
100	28.2	48	78	41	2	1	.6	1	26	103	27	5	8
130	27.1	46	83	39	1	1	1.2	2	32	102	23	7	4
200	33.1	56	71	39	3	0	.6	1	36	91	28	8	5
230	32.0	54	84	27	3	1	2.4	4	29	98	28	5	5
300	33.3	56	72	34	6	0	.6	1	30	94	30	5	8
330	34.9	59	74	30	5	1	1.2	2	27	103	27	6	4
400	37.9	64	72	28	5	0	3.0	5	37	90	22	9	6
430	33.7	57	81	28	3	0	2.4	4	37	90	21	13	4
500	36.7	62	74	26	6	1	1.8	3	36	97	16	11	6
530	37.3	63	77	22	7	0	2.4	4	39	95	14	12	5
600	38.5	65	74	22	8	0	3.0	5	32	96	21	11	4
630	35.7	60	78	25	5	0	1.8	3	47	81	23	9	5
700	33.3	56	76	32	4	0	3.0	5	36	85	32	7	3
730	34.7	58	78	27	4	0	1.8	3	43	83	29	6	3
800	38.3	64	74	25	4	0	4.8	8	57	58	26	14	4
830	38.4	63	71	23	7	0	7.9	13	47	56	30	11	7
900	34.8	57	69	27	11	0	4.3	7	38	62	31	19	7
930	38.2	65	64	28	13	0	2.4	4	44	55	35	23	9
1000	39.0	67	58	33	13	1	.6	1	38	60	40	20	13
1030	34.9	60	67	31	12	2	.0	0	27	68	38	24	15
1100	36.3	62	70	23	15	1	.0	0	21	74	39	21	16
1130	31.8	54	74	27	14	1	.0	0	12	63	57	24	14
1200	30.6	53	79	25	14	2	.0	0	8	76	47	26	16
1230	33.9	59	76	24	13	2	.0	0	9	66	59	21	19
1300	33.7	58	79	20	11	4	.0	0	8	67	57	21	19
1330	31.8	55	73	27	16	2	.0	0	7	64	59	26	17
1400	32.2	56	75	28	13	2	.0	0	9	65	57	23	20
1430	28.9	50	72	33	14	4	.0	0	8	68	52	29	16
1500	27.0	47	80	35	10	2	.0	0	11	67	55	27	14
1530	20.8	36	90	31	14	2	.0	0	18	73	46	24	12
1600	18.3	32	90	40	12	1	.0	0	22	80	37	24	12
1630	21.1	37	94	32	12	0	.0	0	34	82	28	20	11
1700	27.4	48	90	24	12	1	2.3	4	62	65	22	14	8
1730	27.0	47	95	25	7	0	6.3	11	54	73	20	9	7
1800	25.9	45	89	32	8	0	2.3	4	46	84	19	14	7
1830	19.5	34	99	34	7	0	2.9	5	37	89	20	18	5
1900	14.4	25	93	49	7	0	1.7	3	17	109	29	13	3
1930	14.5	25	77	64	7	0	1.2	2	16	105	33	14	3
2000	16.2	28	70	68	6	1	.6	1	11	114	30	12	5
2030	18.5	32	71	60	9	1	1.2	2	16	102	35	15	3
2100	18.5	32	78	56	7	0	1.2	2	21	100	35	11	4
2130	19.2	33	86	46	6	1	2.9	5	16	105	31	11	4
2200	23.4	40	85	45	1	0	1.8	3	14	115	25	12	2
2230	25.1	43	83	39	6	0	1.8	3	20	104	31	10	3
2300	25.3	43	89	34	4	0	1.2	2	28	101	29	9	1
2330	30.6	52	83	33	2	0	2.4	4	31	94	31	7	3

WIND CLIMATOLOGY
HOLLOMAN HIGH SPEED TEST TRACK

Location: TDC   Month: DEC   Year(s): 80 81 82 83 84 85

WIND SECTOR vs SPEED (knots)
30 Degree (magnetic) Sectors, centered on direction listed

Dir Deg	# Occ	% Occ	Avg Speed	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	GE48
30	817	11	3.9	307	483	23	3	1					
60	824	12	3.8	357	441	15	7	4					
90	619	9	3.5	320	280	17	2						
120	599	8	4.3	240	277	72	9	1					
150	709	10	6.1	183	250	200	61	15					
180	532	7	5.6	170	176	133	51	2					
210	567	8	5.8	209	156	127	65	8	2				
240	486	7	5.0	233	149	49	39	13	3				
270	464	6	3.6	265	162	27	7	2			1		
300	337	5	3.8	194	100	31	11	1					
330	544	8	5.3	204	168	122	48	2					
360	651	9	4.4	288	258	81	23	1					

Number of calm occurrences: 810
Number of non-calm occurrences: 7149

Number of occurrences used: 7959   #Calm/#Occ= 10%
Number of cases rejected: 969

Possible number of occurrences: 8928

WIND CLIMATOLOGY DATA

MONTH	DAY	YEAR	TDC1 ARC2		MONTH	DAY	YEAR	TDC1 ARC2
08	01	86	1 1		08	01	86	1 2

#	TIME (MST)	DIRECTION 3-DIGITS	SPEED 2-DIGITS	PRE 30 MIN* MAX MIN		TIME (MST)	DIRECTION 3-DIGITS	SPEED 2-DIGITS	PRE 30 MIN* MAX MIN
2	0000	220	02	2330 - 0000 04 02		1200	270	04	14 02
3	0030	260	01	0000 - 0030 04 01		1230	270	08	12 02
4	0100	240	04	04 01		1300	300	08	12 01
5	0130	250	02	03 01		1330	300	08	13 01
6	0200	310	02	03 01		1400	260	06	13 02
7	0230	120	04	04 01		1430	240	06	12 01
8	0300	150	08	12 04		1500	240	08	12 02
9	0330	150	04	10 02		1530	250	06	11 01
10	0400	120	04	05 03		1600	270	04	10 01
11	0430	120	04	05 04		1630	270	06	10 01
12	0500	120	05	06 04		1700	290	06	11 05
13	0530	090	04	05 04		1730	270	06	08 03
14	0600	070	04	04 02		1800	260	06	08 05
15	0630	080	05	05 04		1830	250	04	06 03
16	0700	120	04	06 04		1900	200	04	04 03
17	0730	150	04	06 04		1930	170	04	04 03
18	0800	190	04	06 02		2000	110	04	04 03
19	0830	120	04	06 02		2030	100	04	04 02
20	0900	180	04	09 02		2100	350	06	06 03
21	0930	190	12	14 03		2130	040	05	06 04
22	1000	130	10	14 02		2200	030	06	06 03
23	1030	150	06	10 03		2230	020	06	2200 2230 10 05
24	1100	150	06	11 03		2300	090	04	06 02
25	1130	210	10	14 01		2330	030	04	04 02

*PREVIOUS 30 MINUTES: at 0900 enter max and min winds recorded between 0830 and 0900 (including 0900)

Data on this page entered by (initials) _____ on (date) 25 Aug 86

Data entered into computer by (initials) _____ .

NOTE: After entering each month's data into a computer file, run the quality check [RUN QC] program to identify and correct gross errors.
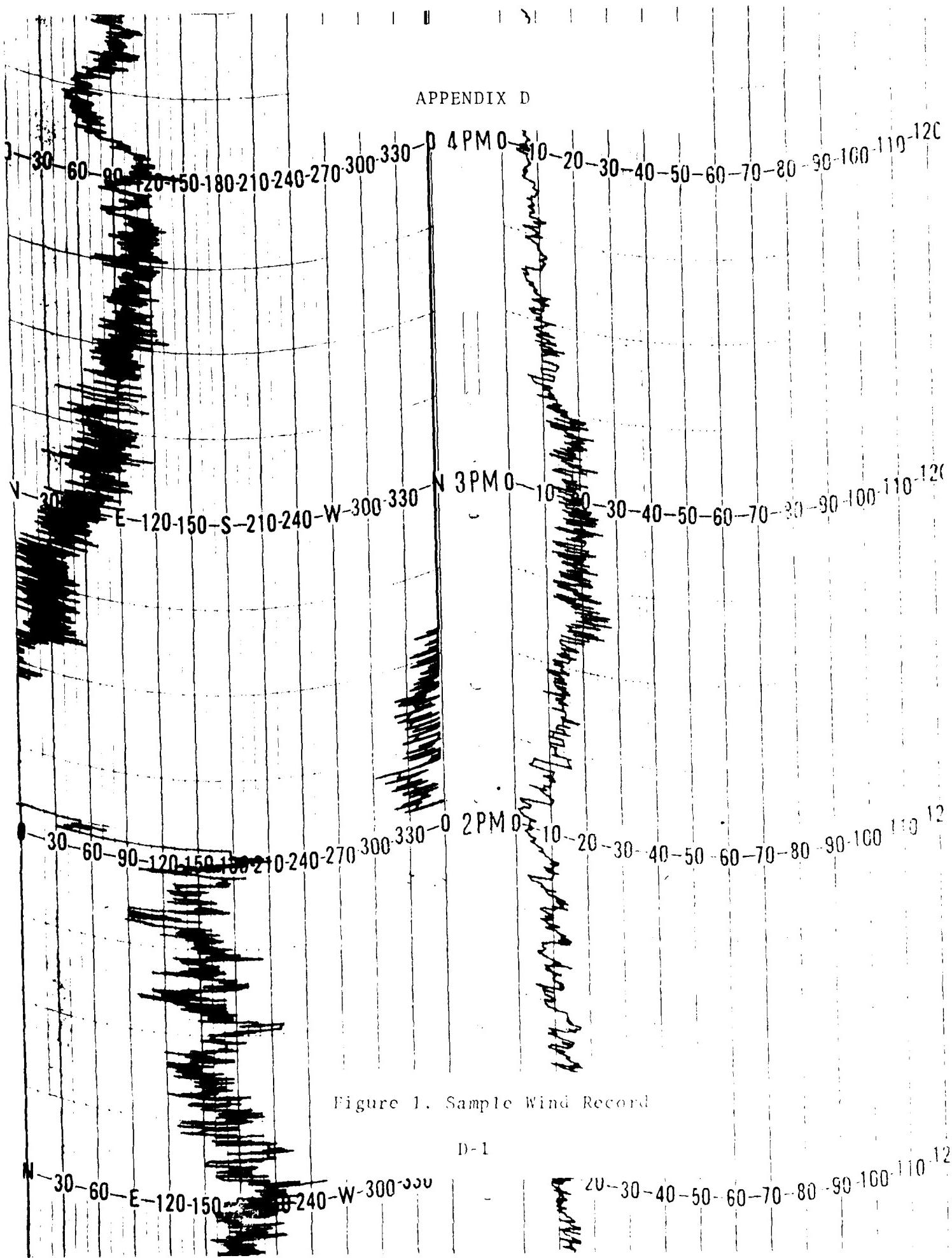
Figure 1. Sample Wind Record

D-1

```
1    $CONTROL USLINIT,FILE=03,FILE=04,NOSOURCE
2          PROGRAM QCHECK
3    C
4    C QUALITY CONTROL CHECK PROGRAM FOR CHECKING TDC WINDS
5    C To run program, type "RUN QC"
6    C The name of THIS program is QCHECK
7    C To update QC, to current QCHECK type FORPREP QCHECK, and
8    C  correct until no errors or warnings plus successful PREP phase.
9    C  You are now ready to enter new version. type "S C *", then
10   C  type "PURGE QC", THEN TYPE ": P,QC".
11   C
12   C FILE FTN03 = ORINGINAL FILE NAME
13   C FILE FTN04 = NEW FILE NAME WITH CORRECTIONS
14   C
15         SYSTEM INTRINSIC FOPEN, FCLOSE, FRENAME
16         CHARACTER*1 XKEY,XKEY3,YORN
17         CHARACTER*3 XKEY1             ●
18         CHARACTER*10 INFILE,OUTFILE
19         CHARACTER*250 DATA1
20         COMMON ICOUNT2,XKEY,MM,IYR
21         INTEGER DATA(70,150)
22         INTEGER OLD
23         INFILE=" "
24         DISPLAY "Enter name of TDC wind file to be checked "
25         ACCEPT INFILE
26         MPE3=FOPEN(INFILE,%5L,%0L)
27         IF(.CC.)2,3,2
28       2 DISPLAY "CANNOT OPEN ",INFILE
29         STOP
30       3 MPE4=FOPEN("WTDCBACK   ",%5L,%0L)
31         IF(.CC.)6,4,6
32       4 DISPLAY "WTDCBACK (backup) already exists, do you want to ",
33        *"purge it? (Y/N) "
34         ACCEPT YORN
35         IF(YORN.EQ."N") STOP
36         IF(YORN.NE."Y") GO TO 4
37         CALL FCLOSE(MPE4,4,0)
38         IF(.CC.)5,6,5
39       5 DISPLAY "COULD NOT PURGE OLD BACKUP"
40         STOP
41       6 MPE4=FOPEN("WTDCBACK   ",%4L,%1L,-250)
42         IF(.CC.)7,8,7
43       7 DISPLAY "CANNOT OPEN BACKUP"
44         STOP
45       8 WRITE (6,85)
46         CALL FSET(3,MPE3,JUNK)
47         CALL FSET(4,MPE4,JUNK)
48   C
49       9 DISPLAY "What is the month and year of the file name?"
50         DISPLAY "    Example '09,81'"
51         ACCEPT MM,IYR
```

```
52      C
53      C FIND HOW MANY LINES IN DATA
54      C
55      C READ DATA FROM ORIGINAL FILE AND START QUALITY CONTROL CHECKS
56      C
57            LINENO=0
58            IF (XKEY1.EQ."CD ") GO TO 35
59            DO 20 L=1,1000
60            READ (3,30,END=35) (DATA(L,J),J=1,125)
61            IF((DATA(L,1).EQ.99).AND.(DATA(L,2).GE.90))GO TO 35
62            LINENO=LINENO+1
63         20 CONTINUE
64         30 FORMAT (3I2,2I1,1X,24(I2,I1,3I2,1X))
65         32 FORMAT (1H ,3I2,2I1,1X,24(I2,I1,3I2,1X))
66      C
67      C ASSIGN FIRST DATA STRING (line header) TO MONTH, DAY, YEAR,
68      C LOCATION, AND TIME OF DAY
69      C
70         35 DO 80 L=1,LINENO
71            ICOUNT2 = 1
72            IMM = DATA(L,1)
73            IDA = DATA(L,2)
74            IYY = DATA(L,3)
75            ILL = DATA(L,4)
76            ITT = DATA(L,5)
77      C
78      C SET UP FOR CHECKING LINE NO. MATCHING WITH THE DATE AND TIME OF DAY
79      C
80            RCHC = L/2.0
81            IRCHC = RCHC
82            RCOMP = RCHC - IRCHC
83            ILN = 2*IDA
84            ILN1 = (2*IDA)-1
85      C
86      C DATA ENTRY CHECKS FOR MONTH, DAY, YEAR, LOCATION, AND TIME
87      C Does month and year on line header agree with file name?
88      C
89            IF (IMM.NE.MM.OR.IYY.NE.IYR) ICHECK = 1
90            IF (ICHECK.EQ.1) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
91          *      IDD,IFF,ISS,IMX,IMN)
92      C Is month between 01 and 12?
93            IF (IMM.LT.1.OR.IMM.GT.12) ICHECK =2
94            IF (ICHECK.EQ.2) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
95          *      IDD,IFF,ISS,IMX,IMN)
96      C Check for correct day.
97            IF (L.LT.ILN1.OR.L.GT.ILN) ICHECK = 3
98            IF (ICHECK.EQ.3) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
99          *      IDD,IFF,ISS,IMX,IMN)
100     C Is year between 1980 and 1990?
101           IF (IYY.LT.80.OR.IYY.GT.90) ICHECK = 4
102           IF (ICHECK.EQ.4) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
103         *      IDD,IFF,ISS,IMX,IMN)
104     C Is data from TDC?
105           IF (ILL.NE.1) ICHECK = 5
106           IF (ICHECK.EQ.5) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
107         *      IDD,IFF,ISS,IMX,IMN)
```

```
108      C Is time of day (am=1, pm=2) correct?
109              IF (RCOMP.EQ..5) ITC = 1
110              IF (RCOMP.EQ.0.0) ITC = 2
111              IF (ITT.NE.ITC) ICHECK = 6
112              IF (ICHECK.EQ.6) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
113          *       IDD,IFF,ISS,IMX,IMN)
114      C
115      C CHECK TO SEE IF NUMBER OF LINES CORRESPOND TO NUMBER
116      C OF DAYS OF A PARTICULAR MONTH
117      C
118      C Jan, Mar, May, Jul, Aug, Oct, & Dec should have 62 lines.
119              IF (IMM.NE.1.AND.IMM.NE.3.AND.IMM.NE.5.AND.IMM.NE.7.AND.
120          *       IMM.NE.8.AND.IMM.NE.10.AND.IMM.NE.12) GO TO 40
121              IF (LINENO.EQ.62) GO TO 40
122              ICHECK = 7
123              CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,IDD,IFF,ISS,IMX,IMN)
124      C Apr, Jun, Sep, & Nov should have 60 lines of data.
125         40  IF (IMM.NE.4.AND.IMM.NE.6.AND.IMM.NE.9.AND.
126          *       IMM.NE.11) GO TO 50
127              IF (LINENO.EQ.60) GO TO 50
128              ICHECK = 8
129              CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,IDD,IFF,ISS,IMX,IMN)
130      C Feb should have 56 or 58 lines of data.
131         50  IF (IMM.NE.2) GO TO 60
132              IF (LINENO.EQ.56.OR.LINENO.EQ.58) GO TO 60
133              ICHECK = 9
134              CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,IDD,IFF,ISS,IMX,IMN)
135      C
136      C ASSIGN REST OF DATA TO Wind Direction, Third wind digit, Mean Wind,
137      C Max Wind, and Min Wind
138      C
139         60      ICOUNT2 = 1
140              DO 70 J=6,125,5
141                  IDD = DATA(L,J)
142                  IFF = DATA(L,J+1)
143                  ISS = DATA(L,J+2)
144                  IMX = DATA(L,J+3)
145                  IMN = DATA(L,J+4)
146                  ICOUNT2 = ICOUNT2+1
147                  ICHECK = 0
148      C
149      C DATA ENTRY CHECKS FOR WIND DIRECTIONS, THIRD WIND DIGIT, SPEED,
150      C MAX WIND, AND MIN WIND
151      C
152      C Is wind direction possible?
153              IF (IDD.LT.0.OR.IDD.GT.36.AND.IDD.NE.66.
154          *       AND.IDD.NE.99) ICHECK = 10
155              IF (ICHECK.EQ.10) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
156          *       IDD,IFF,ISS,IMX,IMN)
157      C Is third wind digit out of bounds?
158              IF (IFF.NE.0.AND.IFF.NE.6.AND.IFF.NE.9) ICHECK = 11
159              IF (ICHECK.EQ.11) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
160          *       IDD,IFF,ISS,IMX,IMN)
```

```
161       C Check for desire to end the program
162                   XKEY3 = "N"
163                   IF (ICHECK.EQ.11) DISPLAY "Do you want to end the program
164           * (Y/N)"
165                   IF (ICHECK.EQ.11) ACCEPT XKEY3
166           IF (XKEY3.NE."Y") GO TO 65
167           DO 62 LZ=L,LINENO
168           WRITE (4,30)(DATA(LZ,J),J=1,125)
169        62 CONTINUE
170           IF((DATA(LINENO+1,1).EQ.99).AND.((DATA(LINENO+1,2).GE.90)))
171          *WRITE (4,63)
172        63 FORMAT("999")
173           GO TO 105
174       C Is max wind greater than or equal to min wind?
175        65  IF (IMX.LT.IMN) ICHECK = 12
176                   IF (ICHECK.EQ.12) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
177           *           IDD,IFF,ISS,IMX,IMN)
178       C Is speed greater than max wind?
179                   IF (ISS.GT.IMX) ICHECK = 13
180                   IF (ICHECK.EQ.13) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
181           *           IDD,IFF,ISS,IMX,IMN)
182       C Is speed less than min wind?
183                   IF (ISS.LT.IMN.AND.IMN.NE.99) ICHECK = 14
184                   IF (ICHECK.EQ.14) CALL WROUT(L,J,ICHECK,ITC,LINENO,DATA,
185           *           IDD,IFF,ISS,IMX,IMN)
186        70 CONTINUE
187           WRITE (4,30)  (DATA(L,J),J=1,125)
188        80 CONTINUE
189           WRITE (6,85)
190       C
191       C ASK USER TO RERUN PROGRAM TO CHECK CORRECTIONS
192       C
193           DISPLAY "Type 'CD' if you want to CHECK your data, or"
194           DISPLAY "          Type 'SD' to STOP DATA"
195           ACCEPT XKEY1
196            IF(XKEY1.EQ."CD ") CALL UNITCONTROL(4,-1)
197           IF (XKEY1.EQ."CD ") GO TO 35
198           WRITE (6,85)
199        85 FORMAT(1X,////)
200       C
201       C WHAT DO YOU WANT TO DO WITH THE FILES?
202       C
203        90 DISPLAY "To KEEP all corrections and enter back"
204           DISPLAY"into original file, enter 'K' RETURN"
205           WRITE (6,85)
206           DISPLAY "To EXIT program and PURGE all corrections"
207           DISPLAY "    type 'EAP' RETURN"
208           ACCEPT XKEY1
209           IF (XKEY1.EQ."EAP") STOP
210           IF (XKEY1.EQ."K  ") GO TO 100
211           GO TO 90
212       100 WRITE(4,101)
213       101 FORMAT ("999",246X)
214       105 CALL FCLOSE(MPE4,9,0)
215           IF(.CC.)130,110,130
216       110 CALL FCLOSE(MPE3,4,0)
```

E-4

```
217          IF(.CC.)140,115,140
218      115 MPE4=FOPEN("WTDCBACK   ",%5L,%100L)
219          IF(.CC.)150,117,150
220      117 CALL FRENAME(MPE4,INFILE)
221          IF(.CC.)150,120,150
222      120 STOP
223      130 DISPLAY "COULD NOT SAVE NEW FILE"
224          STOP
225      140 DISPLAY "COULD NOT PURGE OLD FILE, BUT BACKUP IS OK"
226          STOP
227      150 DISPLAY "PURGED OLD FILE,but could not rename newfile"
228         *,", newfile now named WTDCBACK"
229          STOP
230          END
231    C
232    C
233    C SUBROUTINE FOR WRITING ALL ERROR MESSAGES AND MAKING CORRECTIONS
234    C
235    C
236          SUBROUTINE WROUT(L,J,ICHECK,ITC,LINENO,DATA,IDD,IFF,ISS,IMX,IMN)
237          CHARACTER*1 XKEY
238          INTEGER DATA(70,150)
239          COMMON ICOUNT2,XKEY,MM,IYR
240          WRITE (6,90)
241          WRITE (6,220) L,ICOUNT2
242    C
243    C
244          IF (ICHECK.EQ.1) GO TO 10
245          IF (ICHECK.EQ.2) GO TO 15
246          IF (ICHECK.EQ.3) GO TO 20
247          IF (ICHECK.EQ.4) GO TO 25
248          IF (ICHECK.EQ.5) GO TO 30
249          IF (ICHECK.EQ.6) GO TO 35
250          IF (ICHECK.EQ.7) GO TO 40
251          IF (ICHECK.EQ.8) GO TO 40
252          IF (ICHECK.EQ.9) GO TO 40
253          IF (ICHECK.EQ.10)GO TO 50
254          IF (ICHECK.EQ.11)GO TO 60
255          IF (ICHECK.EQ.12)GO TO 65
256          IF (ICHECK.EQ.13)GO TO 70
257          IF (ICHECK.EQ.14)GO TO 75
258    C
259    C WRITE STATEMENTS FOR QUALITY CONTROL ERRORS
260    C
261       10 WRITE (6,100)
262          DISPLAY "Enter correct month and year"
263          ACCEPT DATA(L,1),DATA(L,3)
264          MM = DATA(L,1)
265          IYR = DATA(L,3)
266          RETURN
```

```
267       C
268          15 WRITE (6,110)
269             DISPLAY "Enter correct month"
270             ACCEPT DATA(L,1)
271             RETURN
272       C
273          20 WRITE (6,120)
274             DISPLAY "Enter correct day"
275             ACCEPT DATA(L,2)
276             RETURN
277       C
278          25 WRITE (6,130)
279             DISPLAY "Enter correct year"
280             ACCEPT DATA(L,3)
281             RETURN
282       C
283          30 WRITE (6,140) L,(DATA(L,J),J=1,5),(DATA(L,J),J=1,3),DATA(L,5)
284             DISPLAY "So enter a '1' and RETURN"
285             ACCEPT DATA(L,4)
286             RETURN
287       C
288          35 WRITE (6,150) L,(DATA(L,J),J=1,4),ITC
289             DISPLAY "So enter",ITC,"and RETURN"
290             ACCEPT DATA(L,5)
291             RETURN
292       C
293          40 WRITE (6,160) LINENO
294             WRITE (6,90)
295             DISPLAY "Type 'C' to CONTINUE or 'A' to ABORT"
296             ACCEPT XKEY
297             IF (XKEY.EQ."A") STOP
298             RETURN
299       C
300          50 WRITE (6,170) (DATA(L,K),K=J,J+4)
301             DISPLAY "Enter correct value for wind direction"
302             DISPLAY "wind direction is now",IDD,"change to"
303             ACCEPT DATA(L,J)
304             RETURN
305       C
306          60 WRITE (6,180) (DATA(L,K),K=J,J+4)
307             DISPLAY "Enter correct value for Third Wind Digit"
308             DISPLAY "Third wind digit is now",IFF,"Change to"
309             ACCEPT DATA(L,J+1)
310             RETURN
311       C
312          65 WRITE (6,190) (DATA(L,K),K=J,J+4)
313             DISPLAY "Enter correct value for both MAX & MIN winds"
314             DISPLAY "MAX wind is now",IMX,"change to"
315             ACCEPT DATA(L,J+3)
316             DISPLAY "MIN wind is now",IMN,"change to"
317             ACCEPT DATA(L,J+4)
318             RETURN
```

```
319     C
320        70 WRITE (6,200) (DATA(L,K),K=J,J+4)
321           DISPLAY "Enter correct value for SPEED or MAX WIND"
322           DISPLAY "SPEED is now",ISS,"change to"
323           ACCEPT DATA(L,J+2)
324           DISPLAY "MAX wind is now",IMX,"change to"
325           ACCEPT DATA(L,J+3)
326           RETURN
327     C
328        75 WRITE (6,210) (DATA(L,K),K=J,J+4)
329           DISPLAY "Enter correct value for SPEED or MIN WIND"
330           DISPLAY "SPEED is now",ISS,"change to"
331           ACCEPT DATA(L,J+2)
332           DISPLAY "MIN wind is now",IMN,"change to"
333           ACCEPT DATA(L,J+4)
334           RETURN
335     C
336     C COMMENTS FOR WRITE STATEMENTS
337     C
338        90 FORMAT (1X,///)
339       100 FORMAT (1X,"LINE HEADER DOES NOT AGREE WITH FILENAME",//)
340       110 FORMAT (1X,"MONTH INDICATOR INVALID",//)
341       120 FORMAT (1X,"THE DAY DOES NOT CORRESPOND TO LINE NUMBER",//)
342       130 FORMAT (1X,"YEAR EXCEEDS LIMIT",//)
343       140 FORMAT (1X,"LINE",I3,",",1X,3I2,2I1,2X,"SHOULD SHOW",1X,3I2,
344         *          "1",I1,2X,"INDICATING TDC",//)
345       150 FORMAT (1X,"TIME OF DAY DOES NOT AGREE WITH LINE NUMBER",I3,
346         *          2X,"SHOULD HAVE",2X,3I2,I1,I1,//)
347       160 FORMAT (1X,"INCOMPLETE DATA, ONLY",I3,1X,"LINES PRESENT",
348         *          " IN DATA",//)
349       170 FORMAT (1X,"IN DATA",1X,I2,I1,3I2,2X,"WIND DIRECTION COLUM",
350         *          " IS OUT OF BOUNDS",//)
351       180 FORMAT (1X,"IN DATA",1X,I2,I1,3I2,2X,"THIRD WIND DIGIT OUT",
352         *          " OF BOUNDS",//)
353       190 FORMAT (1X,"IN DATA",1X,I2,I1,3I2,2X,"MAX WIND NOT LARGER",
354         *          " THAN MIN WIND",//)
355       200 FORMAT (1X,"IN DATA",1X,I2,I1,3I2,2X,"SPEED IS GREATER",
356         *          " THAN MAX WIND",//)
357       210 FORMAT (1X,"IN DATA",1X,I2,I1,3I2,2X,"SPEED IS LESS",
358         *          " THAN MIN WIND",//)
359       220 FORMAT (1X,"LINE NUMBER",I3,2X,"DATA SET  ",I3,///)
360           END
```

```
 1    $CONTROL USLINIT,INIT,FILE=3,NOLIST
 2            PROGRAM CBUILD
 3    C This program builds wind climatology.
 4    C To run this program, RUN TWIND
 5    C
 6    C      IMM:Month               IDD:Direction (magnetic)
 7    C      IDA:Day                 IFF:Direction - con't
 8    C      IYY:Year                ISS:Speed on half hour
 9    C      ILL:Location            IMX:Speed Max previous 30 min
10    C      ITT:AM vs PM            IMN:Speed Min previous 30 min
11    C CAT(M) = Wind Speed Categories
12    C CMAX Percent of Maximum winds which are calm
13    C CMIN Percent of winds which are calmminimum winds which are calm
14    C CPC: % of calm cases
15    C DATA1 matrix (time vs direction & speed)
16    C DATA2 matrix (direction vs speed category)
17    C DATA2C Matrix (30 deg dir vs speed cat)
18    C DATA3 matrix (min cases vs time)
19    C DATA4 matrix (MAX cases vs time)
20    C ICNC Counts non-calm cases
21    C ICTMN Counts minimum speed cases
22    C ICTMX Counts max speed cases
23    C ICT0 Counts calm cases
24    C ICTR Counts cases rejected
25    C ICTS Counts known speed data cases
26    C ICTT Counts total cases
27    C IDATA2(K,1) = Dir Deg
28    C IEF is end of input file
29    C IMNMN Minimum IMN
30    C IMNMX MAXIMUM IMN
31    C IMXMN Minimum IMX
32    C IMXMX Maximum IMX
33    C IP Total possible cases
34    C ISSMN Minimum of ISS
35    C ISSMX Maximum ISS
36    C IZT(K) = # Occ
37    C IZTC(K) = # Occ (in 30 deg sectors)
38    C PC = Percent Occurrences
39    C PCC = Percent Occurrences in combined directions
40    C SIMN Sum of IMN
41    C SIMX Sum of IMX
42    C SISS Sum of ISS
43    C SMIS(K) = Mean Speed
44    C SMISC(K) = Mean Speed of 30 deg sector
45            DIMENSION IMM(70),IDA(70),IYY(70),ILL(70)
46            DIMENSION ITT(70),IDD(70,24),IFF(70,24)
47            DIMENSION ISS(70,24), IMX(70,24),IMN(70,24)
48            DIMENSION DRR(48),SD(48)
49            COMMON DATA1(48,12),DATA2(36,13),IMXMN(48),IMNMN(48),CMAX(48)
50           *,ICT(48),IZT(36),SI(48),CO(48),SIS(36),SMIS(36),PC(36)
51           *,ISSMN(48),ISSMX(48),SISS(48),ICTS(48),CPC,DATA3(48,5)
52           *,IMNMX(48),SIMN(48),ICTMN(48),ICTR,NF,IYR(9),DATA4(48,6)
53           *,IMXMX(48),SIMX(48),ICTMX(48),ICTO,ICTT,IP,ICNC,CMIN(48)
54           *,DATA2C(12,13),IZTC(12),SISC(12),SMISC(12),PCC(12)
55            CHARACTER*10  FILE(9)
56            SYSTEM INTRINSIC FOPEN, FCLOSE
```

```fortran
57         C
58         C Initialize
59                CPC = 0.0
60                ICNC = 0
61                ICTO = 0
62                ICTR = 0
63                ICTT = 0
64             2 DO 3 L = 1,48
65                CO(L) = 0
66                ICT(L) = 0
67                ICTMN(L) = 0
68                ICTMX(L) = 0
69                ICTS(L) = 0
70                IMNMN(L) = 99
71                IMNMX(L) = 0
72                IMXMN(L) = 99
73                IMXMX(L) = 0
74                ISSMN(L) = 99
75                ISSMX(L) = 0
76                SI(L) = 0.0
77                SIMN(L) = 0.0
78                SIMX(L) = 0.0
79                SISS(L) = 0.0
80             3 CONTINUE
81                DO 10 L = 1,48
82                DO 10 M = 2,12
83                DATA1(L,M) = 0.0
84            10 CONTINUE
85                DO 11 L=1,48
86                DO 11 M=1,5
87                DATA3(L,M)=0.0
88            11 CONTINUE
89                DO 12 L=1,48
90                DO 12 M=1,6
91                DATA4(L,M)=0.0
92            12 CONTINUE
93                DO 15 L = 1,36
94                IZT(L) = 0
95                PC(L) = 0.0
96                SIS(L) = 0.0
97                SMIS(L) = 0
98                DO 15 M = 1,13
99                DATA2(L,M) = 0.0
100           15 CONTINUE
101               DO 17 L = 1,12
102               IZTC(L) = 0
103               PCC(L) = 0.0
104               SISC(L) = 0.0
105               SMISC(L) = 0
106               DO 17 M = 1,13
107               DATA2C(L,M) = 0.0
108           17 CONTINUE
```

```
109        C Assign time to first column of DATA1
110              DATA1(1,1) = 0000
111              DATA1(2,1) = 0030
112              DATA1(3,1) = 0100
113              DATA1(4,1) = 0130
114              DATA1(5,1) = 0200
115              DATA1(6,1) = 0230
116              DATA1(7,1) = 0300
117              DATA1(8,1) = 0330
118              DATA1(9,1) = 0400
119              DATA1(10,1) = 0430
120              DATA1(11,1) = 0500
121              DATA1(12,1) = 0530
122              DATA1(13,1) = 0600
123              DATA1(14,1) = 0630
124              DATA1(15,1) = 0700
125              DATA1(16,1) = 0730
126              DATA1(17,1) = 0800
127              DATA1(18,1) = 0830
128              DATA1(19,1) = 0900
129              DATA1(20,1) = 0930
130              DATA1(21,1) = 1000
131              DATA1(22,1) = 1030
132              DATA1(23,1) = 1100
133              DATA1(24,1) = 1130
134              DATA1(25,1) = 1200
135              DATA1(26,1) = 1230
136              DATA1(27,1) = 1300
137              DATA1(28,1) = 1330
138              DATA1(29,1) = 1400
139              DATA1(30,1) = 1430
140              DATA1(31,1) = 1500
141              DATA1(32,1) = 1530
142              DATA1(33,1) = 1600
143              DATA1(34,1) = 1630
144              DATA1(35,1) = 1700
145              DATA1(36,1) = 1730
146              DATA1(37,1) = 1800
147              DATA1(38,1) = 1830
148              DATA1(39,1) = 1900
149              DATA1(40,1) = 1930
150              DATA1(41,1) = 2000
151              DATA1(42,1) = 2030
152              DATA1(43,1) = 2100
153              DATA1(44,1) = 2130
154              DATA1(45,1) = 2200
155              DATA1(46,1) = 2230
156              DATA1(47,1) = 2300
157              DATA1(48,1) = 2330
158        C Assign wind direction to first column of DATA2
159           20 DO 25 L = 1,36
160              DATA2(L,1) = L*10
161           25 CONTINUE
```

```
162            DISPLAY "This program builds and prints wind climatology"
163            DISPLAY "Files used with this program MUST first be tested"
164            DISPLAY " using the data quality check program (i.e. QC)"
165            DISPLAY "How many files are to be entered (up to 9)?  "
166         27 ACCEPT NF
167            IF((NF.GT.9).OR.(NF.LT.1)) DISPLAY "This program will"
168          *," only accept up to 9 files, reenter the number of"
169          *," files to be entered."
170            IF((NF.GT.9).OR.(NF.LT.1)) GO TO 27
171         39 DO 49 I = 1,NF
172            DISPLAY "Enter file name (e.g. WTDC0184). ", I
173            ACCEPT FILE(I)
174         40 GO TO (49,48,47,46,45,44,43,42,41),I
175         41 IF (FILE(8).EQ.FILE(I)) GO TO 52
176            IF (FILE(8)[1:6].NE.FILE(I)[1:6]) GO TO 55
177         42 IF (FILE(7).EQ.FILE(I)) GO TO 52
178            IF (FILE(7)[1:6].NE.FILE(I)[1:6]) GO TO 55
179         43 IF (FILE(6).EQ.FILE(I)) GO TO 52
180            IF (FILE(6)[1:6].NE.FILE(I)[1:6]) GO TO 55
181         44 IF (FILE(5).EQ.FILE(I)) GO TO 52
182            IF (FILE(5)[1:6].NE.FILE(I)[1:6]) GO TO 55
183         45 IF (FILE(4).EQ.FILE(I)) GO TO 52
184            IF (FILE(4)[1:6].NE.FILE(I)[1:6]) GO TO 55
185         46 IF (FILE(3).EQ.FILE(I)) GO TO 52
186            IF (FILE(3)[1:6].NE.FILE(I)[1:6]) GO TO 55
187         47 IF (FILE(2).EQ.FILE(I)) GO TO 52
188            IF (FILE(2)[1:6].NE.FILE(I)[1:6]) GO TO 55
189         48 IF (FILE(1).EQ.FILE(I)) GO TO 52
190            IF (FILE(1)[1:6].NE.FILE(I)[1:6]) GO TO 55
191         49 CONTINUE
192            GO TO 57
193         52 DISPLAY "File ", FILE(I), " is a duplicate name."
194            DISPLAY "File names entered are ",
195          *(FILE(J),J=1,I)
196            DISPLAY "Enter corrected file name "
197            ACCEPT FILE(I)
198            GO TO 40
199         55 DISPLAY "File ", FILE(I),"does not match location/"
200          *,"month."
201            DISPLAY "File names entered are ",
202          *(FILE(J),J=1,I)
203            DISPLAY "Enter corrected file name. "
204            ACCEPT FILE(I)
205            GO TO 40
206         57 CONTINUE
207            DO 290 M = 1,NF
208            INUM = FOPEN(FILE(M),%5L,%0L,-256)
209            IF(.CC.)30,35,30
210         30 DISPLAY "CANNOT OPEN FILE ", FILE(M)
211            STOP
212         35 CALL FSET(3,INUM,JUNK)
213      C
```

```fortran
214     C Read data
215           DO 90 K = 1,70
216        70 READ (3,80)IMM(K),IDA(K),IYY(K),ILL(K),
217          *ITT(K),(IDD(K,L),IFF(K,L),ISS(K,L),
218          *IMX(K,L),IMN(K,L),L=1,24)
219        80 FORMAT (3I2,2I1,1X,24(I2,I1,3I2,1X))
220     C
221     C Determine the number of lines in the file.
222           IF (IMM(K).EQ.99) GO TO 95
223        90 CONTINUE
224           DISPLAY "Could not find the end of file - will STOP"
225           STOP
226     C L is now the number of the last line of data
227        95 IEF = K - 1
228           IP = 24.0*IEF*NF
229           IYR(M)=IYY(1)
230     C
231     C Build DATA1 matrix
232     C Determine resultant wind direction
233           DO 130 L=1,IEF
234           DO 120 N=1,24
235           IF(IDD(L,N).EQ.99.OR.ISS(L,N).EQ.99.OR.ISS(L,N).EQ.0)
236          *GO TO 120
237     C Time (in 30 minute increments) is found by noting the second
238     C position of the unput data, adding 12 hours if ITT = 2 (i.e. pm)
239           IF (ITT(L).EQ.2) I = N + 24
240           IF (ITT(L).EQ.2)GO TO 110
241           I = N
242           IFLAG = 0
243       110 CALL RSLTW(L,I,IDD(L,N),IFLAG)
244       120 CONTINUE
245       130 CONTINUE
246           IFLAG = 1
247           CALL RSLTW(0,0,0,IFLAG)
248     C
249     C Determine min, mean, & max winds (on half hour)
250           DO 150 L = 1,IEF
251     C       DISPLAY "DO 150, L=",L
252           DO 140 N = 1,24
253     C Check for AM vs PM
254           I=N
255           IF (ITT(L).EQ.2) I = N + 24
256           IF (ISS(L,N).EQ.99) GO TO 140
257           CALL MMM(L,I,ISS(L,N))
258       140 CONTINUE
259       150 CONTINUE
260     C
261     C Work with minimum speeds (during 30 min)
262           DO 170 L=1,IEF
263           DO 160 N=1,24
264           I = N
265     C Check for AM vs PM
266           IF (ITT(L).EQ.2) I = N + 24
267           IF(IMN(L,N).EQ.99) GO TO 160
```

```fortran
268      C Find min
269             CALL MIN(L,I,IMN(L,N))
270        160 CONTINUE
271        170 CONTINUE
272      C
273      C Work with maximum speeds (during 30 min)
274             DO 190 L=1,IEF
275             DO 180 N=1,24
276             IF (IMX(L,N).EQ.99) GO TO 180
277      C Check for AM vs PM
278             I = N
279             IF (ITT(L).EQ.2) I = N + 24
280      C Find min (of max)
281             CALL MAX(L,I,IMX(L,N))
282        180 CONTINUE
283        190 CONTINUE
284      C
285      C Build DATA2 and DATA2C matrix
286      C Determine speed for each direction
287      C
288             DO 250 L=1,IEF
289             DO 240 I=1,24
290      C Count calm occurrences
291             IF (ISS(L,I).EQ.0) ICTO = ICTO + 1
292             IF (ISS(L,I).EQ.0) GO TO 240
293      C Skip cases with missing data
294             IF ((IDD(L,I).EQ.99).OR.(ISS(L,I).EQ.99))ICTR=ICTR+1
295             IF ((IDD(L,I).EQ.99).OR.(ISS(L,I).EQ.99))GO TO 240
296      C Combine direction 00 & 36 (north)
297             IF (IDD(L,I).EQ.0) IDD(L,I) = 36
298             ICNC = ICNC + 1
299             CALL DIRBLD (L,I,IDD(L,I),ISS(L,I))
300        240 CONTINUE
301        250 CONTINUE
302             DO 270 K=1,36
303             PC(K) = (IZT(K)*100.0/ICNC)
304        270 CONTINUE
305             DO 280 K = 1,12
306             PCC(K) = (IZTC(K)*100.0/ICNC)
307        280 CONTINUE
308             ICTT = ICTO + ICNC
309      C Continue if not all files entered
310             CALL FCLOSE(INUM,0,0)
311        290 CONTINUE
312             CPC = ICTO*100.0/ICTT
313      C
314      C Print results
315      C
316             CALL PRNT (ITT(1),IMM(1),ILL(1))
317             STOP
318             END
319      C * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
320      C
```

```
321    C Subroutine: Compute resultant wind direction, irregardless of speed
322          SUBROUTINE RSLTW (L,I,ID,IFLAG)
323          DIMENSION   DRR(48),SD(48)
324          DIMENSION S(48),C(48)
325          COMMON DATA1(48,12),DATA2(36,13),IMXMN(48),IMNMN(48),CMAX(48)
326         *,ICT(48),IZT(36),SI(48),CO(48),SIS(36),SMIS(36),PC(36)
327         *,ISSMN(48),ISSMX(48),SISS(48),ICTS(48),CPC,DATA3(48,5)
328         *,IMNMX(48),SIMN(48),ICTMN(48),ICTR,NF,IYR(9),DATA4(48,6)
329         *,IMXMX(48),SIMX(48),ICTMX(48),ICTO,ICTT,IP,ICNC,CMIN(48)
330         *,DATA2C(12,13),IZTC(12),SISC(12),SMISC(12),PCC(12)
331          IF(IFLAG.EQ.1) GO TO 410
332          ICT(I) = ICT(I) + 1
333    C Sum of sines (for all L at each I)
334          SI(I) = SIN(ID*3.14159265/18.0)+ SI(I)
335    C Sum of cosines
336          CO(I) = COS(ID*3.14159265/18.0)+ CO(I)
337          RETURN
338    C
339      410 CONTINUE
340          DO 480 M=1,48
341    C Resultant direction
342          R = 57.3*ATAN2(SI(M),CO(M))
343          IF (R.GT.360.0) R=R - 360.0
344          IF (R.LE.0.0)   R = R + 360.0
345      470 CONTINUE
346          DATA1(M,2) = R
347    C Approximation of standard deviation
348          S(M) = SI(M)/ICT(M)
349          C(M) = CO(M)/ICT(M)
350          DRR(M) = SQRT(S(M)*S(M)+C(M)*C(M))
351          DATA1(M,3) = 57.3*SQRT(-2*ALOG(DRR(M)))
352    C ALOG(DRR(M)) is the natural log of DRRgarithm of DRR(M)
353      480 CONTINUE
354          RETURN
355          END
356    C
357          SUBROUTINE MMM (L,I,ISS)
358          COMMON DATA1(48,12),DATA2(36,13),IMXMN(48),IMNMN(48),CMAX(48)
359         *,ICT(48),IZT(36),SI(48),CO(48),SIS(36),SMIS(36),PC(36)
360         *,ISSMN(48),ISSMX(48),SISS(48),ICTS(48),CPC,DATA3(48,5)
361         *,IMNMX(48),SIMN(48),ICTMN(48),ICTR,NF,IYR(9),DATA4(48,6)
362         *,IMXMX(48),SIMX(48),ICTMX(48),ICTO,ICTT,IP,ICNC,CMIN(48)
363         *,DATA2C(12,13),IZTC(12),SISC(12),SMISC(12),PCC(12)
364    C Find min
365          IF (ISS.LT.ISSMN(I)) ISSMN(I) = ISS
366          DATA1(I,4) = ISSMN(I)
367    C Find max
368          IF (ISS.GT.ISSMX(I)) ISSMX(I) = ISS
369          DATA1(I,6) = ISSMX(I)
370    C Sum speeds & count cases
371          SISS(I) = ISS + SISS(I)
372          ICTS(I) = ICTS(I) + 1
373    C Calculate mean speed for each time
374          DATA1(I,5) = SISS(I)/ICTS(I)
375          RETURN
376          END
```

```
377     C
378           SUBROUTINE MIN(L,I,IMN)
379           COMMON DATA1(48,12),DATA2(36,13),IMXMN(48),IMNMN(48),CMAX(48)
380          *,ICT(48),IZT(36),SI(48),CO(48),SIS(36),SMIS(36),PC(36)
381          *,ISSMN(48),ISSMX(48),SISS(48),ICTS(48),CPC,DATA3(48,5)
382          *,IMNMX(48),SIMN(48),ICTMN(48),ICTR,NF,IYR(9),DATA4(48,6)
383          *,IMXMX(48),SIMX(48),ICTMX(48),ICTO,ICTT,IP,ICNC,CMIN(48)
384          *,DATA2C(12,13),IZTC(12),SISC(12),SMISC(12),PCC(12)
385           IF(IMN.LT.IMNMN(I)) IMNMN(I) = IMN
386           DATA1(I,7) = IMNMN(I)
387     C Find max (of min)
388           IF(IMN.GT.IMNMX(I)) IMNMX(I) = IMN
389           DATA1(I,9) = IMNMX(I)
390     C Sum min's & count cases
391           SIMN(I) = IMN + SIMN(I)
392           ICTMN(I) = ICTMN(I) + 1
393     C Calculate mean min speed
394           DATA1(I,8) = SIMN(I)/ICTMN(I)
395     C Seperate and count into 5 categories
396           IF (IMN.EQ.0) MNCAT=1
397           IF (IMN.EQ.0) GO TO 500
398           IF (IMN.LE.3) MNCAT=2
399           IF (IMN.LE.3) GO TO 500
400           IF (IMN.LE.6) MNCAT=3
401           IF (IMN.LE.6) GO TO 500
402           IF (IMN.LE.10) MNCAT=4
403           IF (IMN.LE.10) GO TO 500
404           MNCAT=5
405       500 DATA3(I,MNCAT) = DATA3(I,MNCAT) + 1
406           CMIN(I) = 100*DATA3(I,1)/ICTMN(I)
407           RETURN
408           END
409     C
410           SUBROUTINE MAX (L,I,IMX)
411           COMMON DATA1(48,12),DATA2(36,13),IMXMN(48),IMNMN(48),CMAX(48)
412          *,ICT(48),IZT(36),SI(48),CO(48),SIS(36),SMIS(36),PC(36)
413          *,ISSMN(48),ISSMX(48),SISS(48),ICTS(48),CPC,DATA3(48,5)
414          *,IMNMX(48),SIMN(48),ICTMN(48),ICTR,NF,IYR(9),DATA4(48,6)
415          *,IMXMX(48),SIMX(48),ICTMX(48),ICTO,ICTT,IP,ICNC,CMIN(48)
416          *,DATA2C(12,13),IZTC(12),SISC(12),SMISC(12),PCC(12)
417           IF (IMX.LT.IMXMN(I)) IMXMN(I) = IMX
418           DATA1(I,10) = IMXMN(I)
419     C Find max
420           IF (IMX.GT.IMXMX(I))IMXMX(I)=IMX
421           DATA1(I,12) = IMXMX(I)
422     C Sum max's & count cases
423           SIMX(I) = IMX + SIMX(I)
424           ICTMX(I) = ICTMX(I) + 1
425     C Calculate mean max speed
426           DATA1(I,11)  = SIMX(I)/ICTMX(I)
```

```
427      C Seperate and count into 6 categories
428            IF (IMX.EQ.0) MXCAT=1
429            IF (IMX.EQ.0) GO TO 520
430            IF (IMX.LE.3) MXCAT=2
431            IF (IMX.LE.3) GO TO 520
432            IF (IMX.LE.6) MXCAT=3
433            IF (IMX.LE.6) GO TO 520
434            IF (IMX.LE.10) MXCAT=4
435            IF (IMX.LE.10) GO TO 520
436            IF (IMX.LE.16) MXCAT=5
437            IF (IMX.LE.16) GO TO 520
438            MXCAT = 6
439        520 DATA4(I,MXCAT) = DATA4(I,MXCAT) + 1
440            CMAX(I) = 100*DATA4(I,1)/ICTMX(I)
441            RETURN
442            END
443      C
444      C Subroutine to build wind direction vs speed catagory plus mean speed
445            SUBROUTINE DIRBLD (L,I,IDD,IS)
446            COMMON DATA1(48,12),DATA2(36,13),IMXMN(48),IMNMN(48),CMAX(48)
447          *,ICT(48),IZT(36),SI(48),CO(48),SIS(36),SMIS(36),PC(36)
448          *,ISSMN(48),ISSMX(48),SISS(48),ICTS(48),CPC,DATA3(48,5)
449          *,IMNMX(48),SIMN(48),ICTMN(48),ICTR,NF,IYR(9),DATA4(48,6)
450          *,IMXMX(48),SIMX(48),ICTMX(48),ICTO,ICTT,IP,ICNC,CMIN(48)
451          *,DATA2C(12,13),IZTC(12),SISC(12),SMISC(12),PCC(12)
452            IF (IS.LE.3) SCAT = 3
453            IF (IS.LE.3) GO TO 550
454            IF (IS.LE.6) SCAT = 4
455            IF (IS.LE.6) GO TO 550
456            IF (IS.LE.10) SCAT = 5
457            IF (IS.LE.10) GO TO 550
458            IF (IS.LE.16) SCAT = 6
459            IF (IS.LE.16) GO TO 550
460            IF (IS.LE.21) SCAT = 7
461            IF (IS.LE.21) GO TO 550
462            IF (IS.LE.27) SCAT = 8
463            IF (IS.LE.27) GO TO 550
464            IF (IS.LE.33) SCAT = 9
465            IF (IS.LE.33) GO TO 550
466            IF (IS.LE.40) SCAT = 10
467            IF (IS.LE.40) GO TO 550
468            IF (IS.LE.47) SCAT = 11
469            IF (IS.LE.47) GO TO 550
470            SCAT = 12
471        550 DATA2(IDD,SCAT) = DATA2(IDD,SCAT) + 1
472            IZT(IDD) = IZT(IDD) + 1
473            SIS(IDD) = SIS(IDD) + IS
474      C Mean speed for each direction
475            SMIS(IDD) = SIS(IDD)/IZT(IDD)
476      C Combine data into 30 degree sectors
477            IF((IDD.LE.1).OR.(IDD.GE.35)) ICD =12
478            IF (IDD.LE.1) GO TO 570
479            IF (IDD.LE.4) ICD = 1
480            IF (IDD.LE.4) GO TO 570
481            IF (IDD.LE.7) ICD = 2
482            IF (IDD.LE.7) GO TO 570
483            IF (IDD.LE.10) ICD = 3
484            IF (IDD.LE.10) GO TO 570
485            IF (IDD.LE.13) ICD = 4       F-9
```

```
486            IF (IDD.LE.13) GO TO 570
487            IF (IDD.LE.16) ICD = 5
488            IF (IDD.LE.16) GO TO 570
489            IF (IDD.LE.19) ICD = 6
490            IF (IDD.LE.19) GO TO 570
491            IF (IDD.LE.22) ICD = 7
492            IF (IDD.LE.22) GO TO 570
493            IF (IDD.LE.25) ICD = 8
494            IF (IDD.LE.25) GO TO 570
495            IF (IDD.LE.28) ICD = 9
496            IF (IDD.LE.28) GO TO 570
497            IF (IDD.LE.31) ICD = 10
498            IF (IDD.LE.31) GO TO 570
499            IF (IDD.LE.34) ICD = 11
500            IF (IDD.LE.34) GO TO 570
501        570 DATA2C(ICD,SCAT) = DATA2C(ICD,SCAT) + 1
502            IZTC(ICD) = IZTC(ICD) + 1
503            SISC(ICD) = SISC(ICD) + IS
504            SMISC(ICD) = SISC(ICD)/IZTC(ICD)
505        590 RETURN
506            END
507      C
508      C Subroutine to display results
509            SUBROUTINE PRNT (IT,IMM,ILL)
510            CHARACTER*4   TYY,CAT(11),CATC(11)
511            CHARACTER*3 IM, IL
512            CHARACTER*44 CATX
513            CHARACTER*44 CATXC
514            EQUIVALENCE (CAT,CATX)
515            EQUIVALENCE (CATC,CATXC)
516            DIMENSION  IDATA2(36,13),IDATA2C(12,13)
517            COMMON DATA1(48,12),DATA2(36,13),IMXMN(48),IMNMN(48),CMAX(48)
518          *,ICT(48),IZT(36),SI(48),CO(48),SIS(36),SMIS(36),PC(36)
519          *,ISSMN(48),ISSMX(48),SISS(48),ICTS(48),CPC,DATA3(48,5)
520          *,IMNMX(48),SIMN(48),ICTMN(48),ICTR,NF,IYR(9),DATA4(48,6)
521          *,IMXMX(48),SIMX(48),ICTMX(48),ICTO,ICTT,IP,ICNC,CMIN(48)
522          *,DATA2C(12,13),IZTC(12),SISC(12),SMISC(12),PCC(12)
523            IF(IMM.LE.0) GO TO 613
524            GO TO(601,602,603,604,605,606,607,608,609,610,611,612,613),IMM
525        601 IM = "JAN"
526            GO TO 615
527        602 IM = "FEB"
528            GO TO 615
529        603 IM = "MAR"
530            GO TO 615
531        604 IM = "APR"
532            GO TO 615
533        605 IM = "MAY"
534            GO TO 615
535        606 IM = "JUN"
536            GO TO 615
537        607 IM = "JUL"
538            GO TO 615
539        608 IM = "AUG"
```

```
540              GO TO 615
541      609 IM = "SEP"
542              GO TO 615
543      610 IM = "OCT"
544              GO TO 615
545      611 IM = "NOV"
546              GO TO 615
547      612 IM = "DEC"
548              GO TO 615
549      613 DISPLAY "Month is out of 1-12 bounds"
550          STOP
551      615 CONTINUE
552          IF (ILL.EQ.1) IL = "TDC"
553          IF (ILL.EQ.2) IL = "ARC"
554    C Print first page
555      620 WRITE (6,800)
556          WRITE (6,801)
557          WRITE (6,802) IL,IM,(IYR(J),J=1,NF)
558          WRITE (6,810)
559          WRITE (6,812)
560          WRITE (6,814)
561          DO 660 I=1,48
562          WRITE (6,816)(DATA1(I,J),J=1,12),ICTS(I),ICTMN(I)
563      660 CONTINUE
564    C Print second page
565    C Page two not used in Tech Report, replaced with page four.
566    C     WRITE (6,800)
567    C     WRITE (6,801)
568    C     WRITE (6,802) IL,IM,(IYR(J),J=1,NF)
569    C     WRITE (6,850)
570    C     WRITE (6,852)
571    C     WRITE (6,854)
572    C     DO 680 K = 1,36
573    C     IDATA2(K,1) = DATA2(K,1)
574    C     DO 680 L = 3,13
575    C 680 IDATA2(K,L)=DATA2(K,L)
576    C Loop to remove printed zeros on page two.
577    C     DO 690 K=1,36
578    C     WRITE (CATX,860)(IDATA2(K,L),L=3,12)
579    C     DO 685 M = 1,11
580    C     IF (CAT(M).EQ."    0") CAT(M) ="      "
581    C 685 CONTINUE
582    C     WRITE (6,870)(IDATA2(K,1),IZT(K),PC(K),SMIS(K),(CAT(M),M=1,10))
583    C 690 CONTINUE
584    C     WRITE (6,865)(ICTO)
585    C     WRITE (6,866)(ICNC)
586    C     WRITE (6,867)(ICTT,CPC)
587    C     WRITE (6,869)(ICTR)
588    C     WRITE (6,868)(IP)
```

```
589      C Print third page
590            WRITE (6,800)
591            WRITE (6,801)
592            WRITE (6,802) IL,IM,(IYR(J),J=1,NF)
593            WRITE (6,900)
594            WRITE (6,910)
595            WRITE (6,915)
596            DO 700 II=1,48
597            WRITE (6,930) (DATA1(II,1),CMIN(II),
598          *(DATA3(II,J),J=1,5),CMAX(II),
599          *(DATA4(II,K),K=1,6))
600        700 CONTINUE
601      C Print fourth page (30 deg vs speed)
602            WRITE (6,800)
603            WRITE (6,801)
604            WRITE (6,802) IL,IM,(IYR(J),J=1,NF)
605            WRITE (6,950)
606            WRITE (6,955)
607            WRITE (6,852)
608            WRITE (6,854)
609            DO 750 K = 1,12
610            IDATA2C(K,1) = 30*K
611            DO 750 L= 3,13
612        750 IDATA2C(K,L) = DATA2C(K,L)
613      C Loop to remove printed zeros
614            DO 760 K=1,12
615            WRITE (CATXC,860)(IDATA2C(K,L),L=3,12)
616            DO 755 M=1,11
617            IF (CATC(M).EQ."   0") CATC(M) = "    "
618        755 CONTINUE
619            WRITE (6,870)(IDATA2C(K,1),IZTC(K),PCC(K),SMISC(K)
620          *,(CATC(M),M=1,10))
621        760 CONTINUE
622            WRITE (6,865) (ICTO)
623            WRITE (6,866) (ICNC)
624            WRITE (6,867) (ICTT,CPC)
625            WRITE (6,869) (ICTR)
626            WRITE (6,868) (IP)
627            WRITE (6,885)
628            RETURN
629      C Format for top of each page.
630        800 FORMAT ("1",/,33X,"WIND CLIMATOLOGY")
631        801 FORMAT(" ",25X,"HOLLOMAN HIGH SPEED TEST TRACK")
632        802 FORMAT(" ",/,9X,"Location: ",A3,4X,"Month: ",A3,5X,"Year(s): "
633          *,9(I3),/)
634      C Format for first page, climotology by time of day.
635        810 FORMAT (" ",/,11X,"Resultant",22X,"Previous 30 minutes"
636          *,7X,"Number of")
637        812 FORMAT(" ",5X,"MST  Dir (mag)",3X,"Speed (kts)",7X,"Minimum",
638          *,8X,"Maximum",5X,"cases used")
639        814 FORMAT(" ",5X,"Time  Mean SD   Min Mean Max",4X,"Min Mean Max",
640          *3X,"Min Mean Max",3X,"Time 30min")
```

```
641       816 FORMAT(" ",5X,I4,I5,I4,I5,F6.1,I4,I6,F6.1,I4,I5,F6.1,I4,I6,I6)
642     C Format for second page, climatology by wind direction.
643       850 FORMAT(" ",/,14X,"WIND DIRECTION (Degrees-magnetic) vs "
644          *,"SPEED (Knots)",/)
645       852 FORMAT(" ","        Dir  #   %  Avg      Wind Speed",
646          *" Categories (Number of occurrences)")
647       854 FORMAT(" ","        Deg  Occ Occ Speed  1-3 4-6 7-10 11-16 17-21"
648          *," 22-27 28-33 34-40 41-47 GE48")
649       860 FORMAT(11I4)
650       865 FORMAT(" ",/,10X,"Number of calm occurrences:",4X,I5)
651       866 FORMAT(" ",9X,"Number of non-calm occurrences:",I5)
652       867 FORMAT(" ",/,10X,"Number of occurrences used:",I9,
653          *5X,"#Calm/#Occ=",I4,"%")
654       868 FORMAT(" ",/,10X,"Possible number of occurrences:",I5)
655       869 FORMAT(" ",9X,"Number of cases rejected:",I11)
656       870 FORMAT(I9,I5,I3,F6.1,2X,3(A4),7(2X,A4))
657       885 FORMAT("1")
658     C Format for third page
659       900 FORMAT (" ",/,14X,"Minimum-MAXIMUM Winds during each",
660          *" 30 minute period")
661       910 FORMAT (" ",/," 	 30min",3X,"%",5X,"# Minimum cases",
662          *9X,"%",7X,"# MAXIMUM OCCURENCES")
663       915 FORMAT (" ","     PRIOR Calm Calm 1-3 4-6 7-10",
664          *" GE11   CALM CALM 1-3 4-6 7-10 11-16 GE17")
665       930 FORMAT (" ",I8,F6.1,I4,I5,I4,I4,I5,
666          *F6.1,I4,I5,I4,I5,I5,I5)
667     C Format for fourth page
668       950 FORMAT (" ",/,27X,"WIND SECTOR vs SPEED (knots)")
669       955 FORMAT (" ",11X,"30 Degree (magnetic) Sectors, ",
670          *"centered on direction listed",/)
671       990 CONTINUE
672           RETURN
673           END
```

APPENDIX G

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